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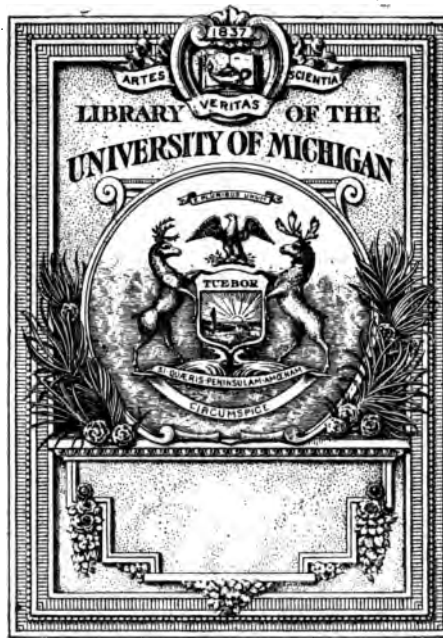
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MANUAL
GEOGRAPHY

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A MANUAL
OF
GEOGRAPHY,

CONTAINING A
COMPREHENSIVE EXPOSITION OF THE WHOLE SUBJECT, ADAPTED TO
ANY SERIES OF GEOGRAPHICAL TEXT BOOKS, FOR
THE USE OF PUPILS AND TEACHERS.

BY
FREDERICK MAGLOTT, A. M.

Of the Ohio Normal University.

THIRD EDITION.

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FREDERICK MAGLOTT.



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PREFACE.

THIS MANUAL has been prepared expressly for my own classes, but it has also been the aim to adapt it to the use of any class in advanced Geography. No pains have been spared to make it accurate and complete, so far as the limits of a text-book will allow.

In the experience of the past eight years in teaching this most useful and delightful subject, it has been found that the text-books now in use are not adapted to the wants and demands of our classes, and in order to meet these requirements I present this *Manual of Geography*.

All statistics, computations, and other matter in its preparation, are believed to be as recent and authentic as can be obtained. Absolute accuracy cannot be attained in a work of this kind, covering so vast a field of knowledge, and in an age of such rapid scientific progress as this. The first pages of a book are often behind the times before the last pages are through the press.

It is not to be presumed that this Manual contains all that might be desired; occasionally something of importance may be omitted, but I content myself with the hope of making such changes and additions in the near future as may seem necessary.

In the contemplation of this work, the object was to make a revision of "The World as It Is and as It Has Been; or, Comprehensive Geography," an excellent work now out of print, but I found it necessary to add so much new matter and to make so many radical changes that but little of it could be used to advantage. The parts taken from it have, in the main, been altered so much that they could not be acknowledged by the usual symbols. The chapters on "Physical and Political Geography Compared," "Occupations," "View of the World," and "The Historical Sketches" have been taken, with some changes. While the arrangement and language of this

book is for the most part original, originality has not been aimed at so much as clearness and precision of statement. An old and well-tried definition has not been discarded for the sake of making one of my own. A number of tables, statistics, curiosities, reviews, exercises, etc., have been added, which it is hoped will be found useful as well as interesting. The plans of using the book and methods of teaching are given at various points in its pages.

In conclusion, this Manual of Geography is submitted to you, my dear pupils and co-workers, with the hope that it will perform the mission of its design, and stimulate and encourage you to still greater effort in the pursuit of knowledge, and that, in a measure, at least, it may lead us to a better appreciation of the Great Author, Designer, and Giver of all.

TO THE PUBLIC into whose hands this volume may fall, I invite your careful examination. For any defects or errors which you may notice, or suggestions you would make, I will feel myself under lasting obligations to you, if you will communicate the same to me. When so many books of excellent merit are in public use by public approval I can hardly excuse my own audacity in attempting what I have done; but being unable to find a text-book on Geography suited to the wants of our classes, and to supply some of the defects in our class-book on this subject, is my apology for publishing this Manual and placing it in the hands of my pupils. Its plans, methods, and preparation give the result of years of experience and patient toil, and if, in a measure, it meets with the success anticipated, I shall feel myself amply rewarded for my work, and so I send the book abroad, satisfied with the hope that it will do, at least, some good.

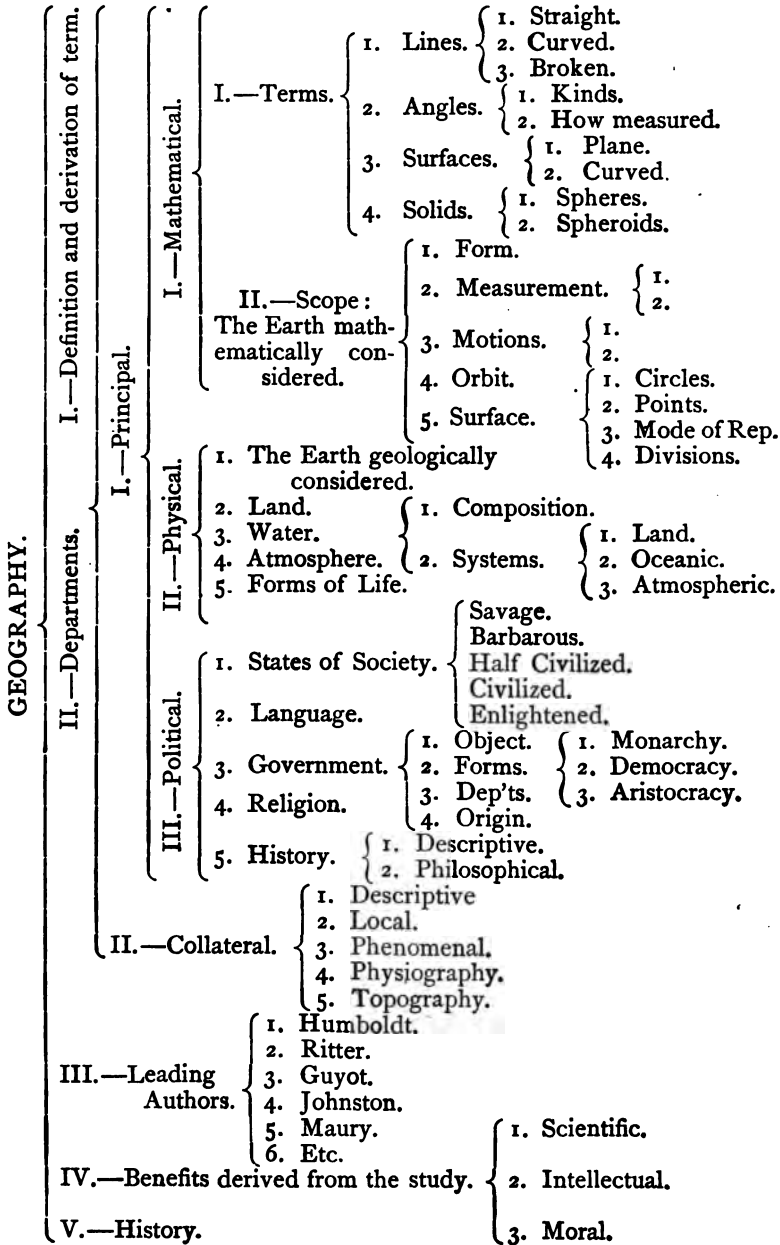
FREDERICK MAGLOTT.

Ohio Normal University, Ada, Ohio,

February 3, 1883.

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A PARTIAL CLASSIFICATION.



GEOGRAPHY AND HISTORY.

GEOGRAPHY AND HISTORY DEFINED.

Geography is a description of the earth.

The name Geography is derived from the Greek words *ge*, the earth, and *grapho*, to write.

Geography includes *Astronomy*, which teaches us that the earth is a planet revolving around the sun; it includes *Geology*, which considers the formation and structure of the globe; it includes *Ethnology*, which treats of the natural races of men; it includes, also, *Botany*, *Zoölogy*, *Meteorology*, *History*, etc. There are but few branches of learning which are not kindred to it, and do not grow out of a thorough study of the subject. It is the most comprehensive of all studies. But the special province of Geography is to describe the surface of the earth, its distribution into land and water, and the various objects, whether physical, moral, or political, which appear upon it.

The science of Geography is divided into three divisions—Mathematical, Physical, and Political.

1. **Mathematical Geography** treats of the earth as a planet; of its relations to the other heavenly bodies; of its motions and their effects; and of the representation of the earth's surface on maps and globes.

2. **Physical Geography** treats of the earth in its natural state.

3. **Phenomenal Geography** is a branch of Physical Geography, and treats of the various phenomena of the earth.

4. **Political Geography** treats of the earth as divided by man, and of the political, moral, and social condition of its inhabitants. This is also called Civil Geography.

5. **Physiography** is a description of the surface of the earth.

6. Minute geographical description of places is called Topography.

7. All these different branches treated together is called Descriptive Geography.

8. **Local Geography** is a description of a particular place on the earth's surface.

9. **History** is a record of past events. In its fullest extent, history means an account of past events, with the causes which led to them, and the consequences to which they tend. It is thus divided into two parts: descriptive and philosophical. It embraces *Chronology*, which is a record of dates at which great events have transpired; and *Geography*, which exhibits the scenes in which they have transpired.

MATHEMATICAL GEOGRAPHY.

CHAPTER I.

HEAVENLY BODIES.

1. By the **Universe** is meant the entire material creation.
2. The **Heavenly Bodies** are the stars, planets, comets, meteors, and nebulae. These all appear to be arranged into systems and groups, sweeping through immeasurable space in circuits.
3. They may be classified into *luminous* and *opaque* or *non-luminous bodies*. The *former* shine by their own light, as the sun and all other stars commonly called fixed stars. The *latter* shine by reflected light, as the planets.
4. The suns or stars are *myriads in number*, and to the naked eye seem to be so near each other as to be almost matted together, yet astronomers tell us that the nearest are billions of miles apart. Light, which travels at the rate of 185,000 miles a second, requires more than three years to pass from the earth to the nearest fixed star, while others are so remote that many thousands of years are consumed in this swift journey of light to reach them. The mighty depths of space no man has ever fathomed.
5. A **Planet** is a spherical body revolving around the sun and receiving light and heat from it. There are two classes of planets—primary and secondary.
6. A body revolving around the sun as a center is called a *Primary Planet*. A body revolving around a primary planet is called a *Secondary Planet*. The earth, which revolves around the sun, is called a primary; the moon, which revolves around the earth, is called a secondary. There are twenty moons or satellites.
7. The *Secondary Planets* revolve around the primary, the primary with their satellites revolve around the sun, the sun with all the planets and other suns with their attendants are supposed to revolve around a central sun, and this system of central suns around a great central sun, and so on, until, perhaps, we reach the great throne of God, about which all worlds and systems of worlds perform their cycles, though vast ages may roll away before one such be completed.

8. There are about 260 planets. Eight of these, on account of their size, are called *major* or *principal planets*; the rest *minor planets*, or *asteroids*.

9. The *principal planets*, in their order from the sun, are as follows: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune. In order of their sizes they are Jupiter, Saturn, Neptune, Uranus, Earth, Venus, Mars, Mercury.

10. The SOLAR SYSTEM consists of our sun and all the heavenly bodies which revolve around it.

11. The following tabular statement will be found serviceable. The figures are only approximate, so that they may be more easily retained in the memory:

	MERCURY.	VENUS.	EARTH.	MARS.
Distance from the Sun	35,000,000	66,000,000	91,500,000	139,000,000
Diameter in miles	3,000	7,500	8,000	4,300
Time of revolution	88 days	224½ days	365½ days	687 days
Time of rotation	24 hours	23¾ hrs	24 hours	24½ hours
Inclination of axis	(unknown)	75°	23½°	28¾°
Comparative velocity, per hour	104,000	77,000	65,000	53,000
" density (water being 1)	6½	5-6	5½	4
" masses (earth being 1)	1-16	¾	1	3-25
" volumes (earth being 1)	1-20	4-5	1	1-6

	JUPITER.	SATURN.	URANUS.	NEPTUNE
Distance from the Sun	476,600,000	871,000,000	1,754,000,000	2,746,000,000
Diameter in miles	85,000	70,000	33,000	37,000
Time of revolution	12 yrs. nearly	29½ years	84 years	165 years
Time of rotation	10 hours	10½ hours	9½ hours	(unknown)
Inclination of axis	3°	26¾°	(unknown)	(unknown)
Comparative velocity, per hour	28,700	21,000	15,000	12,000
" density (water being 1)	1¾	¾	1	9-10
" masses (earth being 1)	301	90	12½	16 4-5
" volumes (earth being 1)	1,300	1,000	65	100

12. The *Asteroids* between Mars and Jupiter are about 252 in number, and have an average distance of about 260,000,000 miles from the sun.

13. The moon is 240,000 miles distant from the earth; diameter, 2,160 miles; time of revolution about the earth, 27½ days. This is called the *Sidereal Month*; the synodical *Lunar Month* contains 29½ days. The *Synodical Month* is the time from one new moon till the next new moon. The fact that the synodic month is longer than the sidereal is due to the conjoint motions of the earth and moon in their orbits.

14. The sun is by far the largest body in the planetary system. His diameter is nearly 110 times that of the earth, and is 1,700,000 larger in volume. We may form a *better idea* of the immense size of the sun if we imagine the center of the sun to be where the center of the earth is. He would then extend to the orbit of the moon and nearly 200,000 miles beyond.

Large as our sun is, his size sinks almost into insignificance when compared with some of the other mighty fixed stars. Sirius, "the dog star," if set in the place of the sun would appear 125 times as large, and another star has been discovered whose diameter is 200,000,000 miles.

CHAPTER II.

ORBITS.

1. **The Orbit of a planet** is the path it describes around the sun.
2. The earth's orbit is called the *Ecliptic*.
3. **The Plane of the Ecliptic** is an ideal surface, conceived as coinciding with the ecliptic.
4. The form of the earth's orbit is an *Ellipse*.

An ellipse is a curved line, from any point of which, if two straight lines be drawn to two points within called the foci, the sum of these lines will always be equal. The long diameter is called the transverse, and the short diameter is called the conjugate diameter. The sun occupies one of the foci of the earth's orbit.

5. When the sun is nearest the earth it is said to be in *perihelion*; when farthest from the earth, in *aphelion*. The sun is in perihelion about the 1st of January, and is then 3,000,000 miles nearer the earth than when in aphelion. Aphelion distance is 93,000,000 miles; perihelion distance 90,000,000 miles.

Aphelion is derived from two Greek words: *apo*, meaning from, and *helios*, meaning sun. Perihelion from *peri*, meaning near, and *helios*, sun.

6. The path of the moon is also an ellipse. When the moon is nearest the earth, it is said to be in *perigee*; when farthest away, in *apogee*. *Ge* in Greek means earth.

CHAPTER III.

SHAPE OF THE EARTH.

1. **The Shape of the Earth** is that of a globe, ball or sphere.
2. It is found, however, by calculation that the earth is not a perfect sphere; it is flattened at the poles, so as to be twenty-six miles more in diameter at the equator than at the poles, and hence is called an oblate spheroid. The oblateness of the earth is said to have been caused by its axillary motion, while in a plastic condition.
3. **A Sphere** is a body bounded by a curved surface, all points of which are equally distant from a point within called the center. *Hemisphere* is a half sphere.

4. **A Spheroid** is a body nearly spherical. Spheroid means like a sphere. A spheroid flattened at the poles is called an *oblate spheroid*. If lengthened in the direction of the poles, it is called a *prolate spheroid*. The *surface* of a globe is the outside part. The earth's surface contains 197,000,000 square miles, of which 52,500,000 square miles is land, and 144,500,000 square miles is water.

5. **The Axis of a Sphere** is the diameter upon which it revolves. The *poles* are the ends of the axis.

6. **The Diameter of a Sphere** is a straight line passing through its center and limited by its surface. The *polar diameter* of the earth is the straight line passing from one pole to the other; its length is 7,899 miles. The *equatorial diameter* is the distance through the earth at the equator, and measures 7,925 miles (nearly). The difference between the polar and the equatorial diameters is, therefore, about 26 miles. The *mean diameter* is about 7,912 miles.

DOES THE MISSISSIPPI FLOW UP HILL?

It is accordingly about thirteen miles farther from the surface to the center of the earth at the equator than it is at the poles; hence, rivers which flow toward the equator have their mouths, theoretically speaking, higher than their sources. We may then ask, Does the Mississippi, or any other river flowing toward the equator, flow up hill? We are said to be going up hill when we increase our distance from the center of the earth, and as the mouth of the Mississippi is more than four miles higher than its source it may rightly be said to flow up hill. This strange paradox, as you may call it, is explained as follows: The centrifugal force of the earth causes the water of the earth to flow toward the equator (as it also caused the earth's crust to bulge out at the equator), and by this force rivers flowing toward the equator are made to flow up hill. It is true all rivers flow toward the level of the sea, but the sea-level is not what it would be if the earth did not rotate; it is higher at the equator and lower at the poles. Should the earth's rotation on its axis cease, the waters of the Gulf would flow back through the channel of the Mississippi northward; the regions about the poles would be covered by the sea, while in the equatorial regions the bottom of the ocean would appear as dry land. The surface of the waters would be everywhere equally distant from the center of the earth.

7. **The Circumference of the Earth** is the distance around it. The *polar circumference* measures 24,865 miles, and *equatorial circumference* 24,899 miles.

8. In the early ages of the world mankind supposed the earth to be a vast plain, terminating on all sides in a shoreless sea or region of darkness. This idea prevailed till about 400 years ago, when the true form of the earth was ascertained—though some philosophers seem to have suspected the globular form of the earth at an earlier date.

PROOFS OF THE EARTH'S SPHERICITY.

9. The spherical form of the earth is proven in many ways:

(1) Persons have frequently been around the world as a fly is seen to creep around an apple. Ships are constantly sailing round the earth.

(2) The circular shape of the horizon everywhere on the earth's surface is a second proof. When you are on top of a high mountain you can see that the land and sea slope away on all sides, as if you stood on a vast globe.

(3) The sea is observed to be globular, for the masts of an approaching ship are seen first in the distance, and the hull afterward.

(4) An eclipse of the moon is produced by the earth coming between the sun and moon, and casting its shadow upon the latter. This shadow of the earth is observed to be always circular.

(5) All the other planets are globular, hence we may fairly infer that the earth is round.

(6) By actual measurement it has been found to be that of an oblate spheroid.

(7) The opposite walls of a building, if built perpendicular, are farther apart at the top than at the bottom.

(8) If the earth were a flat surface the sun would rise everywhere at the same time, whereas it is known that the farther west on any given parallel the later the sun rises.

(9) Civil engineers, in constructing ditches and canals, must make allowance for the curvature of the earth, else they would not get the requisite fall, and in no very great distance would run out at the surface of the earth.

The following is the rule for the curvature of the earth:

Square the distance in miles, and take $\frac{2}{3}$ of this for the curvature in feet. Thus, at the distance of one mile the curvature is 8 inches; for two miles, 32 inches; for 3 miles, 72 inches, and so on.

To find the distance on a level plain, when the height of the object is known, use the following rule:

Multiply height in feet by $\frac{1}{2}$, and extract the square root. The result will be the distance in miles.

GRAVITATION.

10. The earth is surrounded by a thin, transparent element, called the air or atmosphere, which exhibits the phenomena of rain, snow, clouds, etc. The solid part of the earth is composed of matter in many forms—as soil, rocks, fire, vapor, water, vegetables, animals etc. All these are kept together by a principle of attraction called gravitation. The operation of this is easily illustrated.

11. If we throw a stone into the air it falls to the earth; that is, it is drawn back to the earth by attraction of *gravitation*. It is this power or principle which keeps the hills, rocks, houses, cities, and seas steadfast on the earth. This principle never fails. It operates at all times and in all places on the whole surface of the globe, so that upon whichever side we may be we are kept upon it. Thus it is that every part of the surface of the world is habitable by man and animals.

CHAPTER IV.

MOTIONS OF THE EARTH.

1. The earth has two principal motions—one *diurnal* on its own axis, and the *annual* around the sun. This double motion of the earth also belongs to the other planets, and perhaps to all the heavenly bodies. *Day* and *Night* proceed from the first motion, and the *seasons* of spring, summer, autumn, and winter from the second.

The line on which a wheel turns is called an *axis*. The earth is supposed to have such an axis or line of revolution, the ends of which are called the *poles*. The north end of the earth's axis is called the *North Pole*, and the south end of the earth's axis is called the *South Pole*.

2. The earth's axis is inclined $23\frac{1}{2}$ degrees from a perpendicular to the ecliptic; that is, it makes an angle of $66\frac{1}{2}$ degrees with the ecliptic.

3. On account of the sphericity of the earth, all places on its surface do not move equally fast; but the motion is greatest at the equator, and diminishes toward the poles. Rate of motion on the parallels:

Equator—1037 $\frac{1}{2}$ miles per hour.	70 degrees—354 miles per hour.
30 degrees—896 miles per hour.	80 degrees—180 miles per hour.
40 degrees—793 miles per hour.	85 degrees—90 miles per hour.
50 degrees—665 miles per hour.	90 degrees—0 miles per hour.
60 degrees—517 miles per hour.	

PROOFS OF THE EARTH'S ANNUAL MOTION.

4. The following are the proofs that the earth revolves around the sun:

(1) A change of seasons can be explained satisfactorily only on the supposition that the earth revolves around the sun.

(2) Since all the other planets possess this motion it is fair to infer that the earth does not constitute an exception.

(3) The earth is included under *Kepler's Third Law*, which is that "the squares of the periodic times of the planets are proportional to the cubes of their mean distances from the sun." The *periodic time* is the time it takes a planet to revolve around the sun; $365\frac{1}{4}$ days is the periodic time of the earth.

(4) The phenomenon termed aberration of light can only be explained on this supposition.

5. The earth is kept in its place in its orbit by the action of two powerful forces. The one is called *centripetal* force, or that force which tends to draw all bodies to a common center; the other is called *centrifugal*, or that force which causes bodies to fly away from the center of revolution. The former is generally known as the force of gravity. The joint and continuous action of these two forces causes the earth to revolve around the sun as it does. Destroy the centrifugal force

and the earth would fall to the sun; destroy the centripetal force and the earth would fly off through space, in a straight line tangent to its orbit.

PROOFS THAT THE EARTH TURNS ON ITS AXIS.

(1) From the laws of centrifugal force it is impossible for the sun to revolve around the earth, and the only other conclusion is that the earth turns on its axis.

(2) All the other planets, so far as ascertained, rotate on their axes, and the inference is that the earth obeys the same law.

(3) If we drop a stone from a high tower, it will fall to the east of a perpendicular line, showing that the earth revolves from west to east.

(4) The diminished weight of bodies at the equator must be the result of centrifugal force, caused by the rotation of the earth. A body removed from the poles to the equator loses $\frac{1}{235}$ of its weight.

(5) The flattening of the earth at the poles is the legitimate result of its rotation.

(6) The pendulum experiment of Foucault proves the diurnal motion of the globe.

6. Each year contains 365 days, 5 hours, 48 minutes, and 48 seconds, but the earth makes one more revolution on its axis than there are days in the year; so that in 365 days the earth has made 366 rotations. (Why this is so is explained in "3" of next chapter.)

CHAPTER V.

TIME.

1. It is **Noon** at any place when the sun is on the meridian of that place.

2. **A Solar Day** is the time that elapses from noon one day till noon the next day, and is about twenty-four hours long.

3. **A Sidereal Day** is the interval of time between two successive appearances of a star upon a given meridian, and is about four minutes shorter than a solar day. This difference of time is caused by the revolution of the earth around the sun, and may be explained as follows:

Let the hands and face of a watch represent the sun, earth, and its orbit and axillary motion. At 12 o'clock the hands are together; and if the hour hand did not move, 60 minutes would elapse during each revolution of the minute hand to bring it again to the hour hand; whereas, on account of the motion of the hour hand, more than 60 minutes are required to bring them together. So it is with the earth in its diurnal and annual motions; more than one exact rotation is required to bring the sun from any meridian to-day to the same meridian to-morrow; it is this which causes the earth to make one more rotation than there are days in a year.

4. The sidereal days are all of the same length, but the solar days vary a little at different times of the year.

5. **Cause of Inequality of Solar Days.** The earth does not move at a uniform rate in its orbit, but when near perihelion, moves faster than at aphelion; this, in connection with the elliptical form of the orbit and the obliquity of the ecliptic, causes the solar days to vary a little in length.

6. **Sun fast and Sun slow.** A good clock is made to keep uniform and mean time (called the astronomical time), and, consequently, must, at times, be behind the sun, and at other times in advance.

7. The difference between the length of the true solar day and the true mean day is called the "*Equation of Time*."

8. When the clock is behind the sun, the sun is said to be fast; when the clock is in advance of the sun, the sun is said to be slow.

9. From December 24th to April 15th the sun is slow; from April 15th to June 15th the sun is fast; from June 15th to September 1st the sun is slow; from September 1st to December 24th the sun is fast. At the above dates solar and mean time agree.

10. To find true clock time, when sun is slow add "equation" to the true solar time; if the sun is fast, subtract the equation.

11. **A Sidereal Year** is the interval which elapses from the time the sun leaves a star until it reaches it again. It measures 365 days, 6 hours, 9 minutes, and 9 seconds.

12. **A Tropical Year** is the period which elapses from the time the sun leaves the vernal equinox till it reaches it again, and measures 365 days, 5 hours, 48 minutes, and 48 seconds. This is the *Common* or *Civil Year*.

13. **The Anomalistic Year** is the period from the time the sun leaves perihelion till it reaches it again. It measures 365 days, 6 hours, 13 minutes, and 45.6 seconds.

CHAPTER VI.

THE COMPASS.

1. North, east, south, and west are called *cardinal points*. The points midway between these are called *semi-cardinal points*.

2. **A Compass** is an instrument used to determine horizontal directions in reference to the north and other cardinal points. It consists of a magnetized needle, made to turn freely on a point, and enclosed in a case containing a card graduated in reference to its particular uses. The card is divided into thirty-two equal parts or points, called *rhumbs*. The needle, in our latitude, always points to the magnetic north.

3. **The North Magnetic pole** is in latitude 70° north, and longitude 97° west. The *south magnetic pole* has not yet been located exactly, but is about 75° south, and 176° west.

4. A **Mariner's Compass** has a needle permanently attached to a card, so that both may move together. By this arrangement it is adapted to the rolling of the ship in rough weather, whereas, in a surveyor's compass the instrument must be leveled before it can be used.

5. There are also two other varieties of compasses, viz.: *Asimuth* compass, and *Surveyor's* compass.

6. **Boxing a Compass** is naming all its points in order.

7. **How to Read the Points of a Compass.** All points are measured from the cardinal and semi-cardinal points.

N., North.

N. b. E., North by east.

N. N. E., North, north-east.

N. E. b. N., North-east by north.

N. E., North-east.

N. E. b. E., North-east by east.

From the preceding, as examples, the pupil will be enabled to read the following abbreviations:

n. e. b. e.	e. b. s.	s. e. b. s.	s. b. w.	s. w. b. w.	w. b. n.	n. w. b. n.
e. n. e.	e. s. e.	s. s. e.	s. s. w.	w. s. w.	w. n. w.	n. n. w.
e. b. n.	s. e. b. e.	s. b. e.	s. w. b. s.	w. b. s.	n. w. b. w.	n. b. w.
e.	s. e.	s.	s. w.	w.	n. w.	n.

CHAPTER VII.

CIRCLES OF THE EARTH.

Circles of the earth are imaginary lines passing around it. *Semi-circles* are half circles. A *great circle* divides the earth into two equal parts. A *small circle* divides the earth into two unequal parts, as the parallels.

(1) **The Equator** is a great circle passing east and west around the world at an equal distance from the poles.

(2) **Parallels** are circles drawn around the world parallel to the equator.

(3) **Meridians** are semicircles drawn from one pole to the other. *Meridian Circles* are circles passing round the world from north to south through the poles.

(4) **The Ecliptic Circle** is a great circle passing round the world, making an angle of $23\frac{1}{2}^{\circ}$ with the equator.

(5) **The Arctic Circle** is a parallel $23\frac{1}{2}^{\circ}$ from the north pole. **The Antarctic Circle** is a parallel $23\frac{1}{2}^{\circ}$ from the south pole.

(6) **The Tropics** are parallels, and are $23\frac{1}{2}^{\circ}$ on each side of the equator; the one north of the equator is called the *Tropic of Cancer*, and the one south of the equator the *Tropic of Capricorn*.

a. The tropics are located where they are because they show the limit of the sun's vertical rays north and south of the equator.

b. The polar circles are located where they are because they show the limit of the sun's rays across the poles.

Tropo, from the Greek, signifies turning. *Cancer* and *Capricornus* are names of two of the signs of the zodiac, in which the sun was to be seen at the times of its limits north and south of the equator.

(7) **The Zodiac** is a belt 8° on each side of the ecliptic, in which are the twelve signs of the ecliptic, viz.: Aries, Taurus, Gemini, Cancer, Leo, Virgo, Libra, Scorpio, Sagittarius, Capricornus, Aquarius, Pisces.

(8) **The Day Circle** is the line or circumference of a circle which divides light from darkness. One-half of the earth's surface is illuminated by the sun at one time; hence this line is a great circle. Owing to the earth's motion from *west* to *east*, this line seems to move from *east* to *west*.

(9) **The Sunday Line, or International Date Line**, is the line from which every date on the earth is reckoned, and on which every day begins. It passes through Behring's strait, and along the coast of Asia to near Borneo, where it turns and passes between Borneo and the Philippine islands, and thence along the northern limits of the East India islands, New Guinea, and New Zealand. Immediately east of this line it is always one day later than immediately west of it. For example: When it is Sunday just east of this line it is Monday on the west side. In traveling around the world westward we lose a day, and in traveling eastward we gain a day, and the correction is made at the above named line to avoid confusion of dates. The above described line is now nearly obsolete, and *navigators* are in the habit of making the correction in time at the 180th meridian from Greenwich.

The same meridian is to be used in this Manual.

LET THE PUPIL SOLVE THE FOLLOWING:

When it is 4 o'clock P. M., Monday, in London, what is the day and time in Pekin? What in Sidney?

When it is 2 o'clock A. M., Saturday, in St. Petersburg, what is the day and hour in New York? In Rio Janeiro?

At 8 o'clock A. M., Wednesday, in Columbus, Ohio, how many and what days on the earth?

How many degrees wide is each day?

At the present hour how wide is this day?

When at the close of the week the clock strikes 12 in Berlin, what time is it in Lisbon? What time in Moscow? In Calcutta?

Where do the church bells ring first on Sunday morning? Where do they ring last?

How must a man travel so as to have two Sundays in one week? So as to have no Sunday in this time?

Can he travel a whole year without a Sunday?

Can he have a hundred Sundays in a year?

CHAPTER VIII.

LATITUDE AND LONGITUDE.

1. **Latitude** is distance from the equator, measured in degrees, minutes and seconds.

(1) Latitude is measured north and south from the equator 90° . Places north of the equator are in *north latitude*; places south of it are in *south latitude*.

(2) The degrees of latitude are numbered on the sides of a map.

(3) The length of each degree is 60 geographical miles, or $69\frac{1}{4}$ common miles.

A *Geographical* or *Nautical* mile (also called knot) is one-sixtieth of a degree on the equator—about 2,025 yards. It is used in measuring distances on the sea. A *Common* mile measures 1,760 yards, or 5,280 feet.

(4) The width of a degree of latitude is not the same everywhere. Owing to the flattening of the earth at the poles, the width of a degree increases as we go from the equator toward the poles.

Increase of degrees of latitude in statute miles one degree on the meridians :

At equator.....	68.698	At 50 degrees.....	69.109
At 10 degrees.....	68.721	At 55 degrees.....	69.222
At 20 degrees.....	68.781	At 70 degrees.....	69.314
At 30 degrees.....	68.873	At 80 degrees.....	69.375
At 40 degrees.....	68.984	At 90 degrees.....	69.396

(5) All places situated on the same parallel have the same length of day.

2. **Longitude** is the distance, in degrees, east or west of an established meridian.

(1) Longitude is measured 180° east and west of the prime meridian. Two hundred and ten degrees east longitude amounts to the same as 150° west longitude.

(2) Nearly every country reckons longitude from the meridian passing through its capital. Thus the French reckon from Paris, the Germans from Berlin, the English from Greenwich, near London, the Americans from Washington.

(3) In most American maps longitude is reckoned from both Washington and Greenwich. At the top of the map the degrees of longitude are given from one of the places, at the bottom from the other place.

(4) Owing to the globular shape of the earth, the meridians approach each other toward the poles so that a degree of longitude decreases as we go from the equator.

(5) A degree of longitude at the equator measures 69.164 miles.

At 5 degrees.....68.901	At 50 degrees.....44.545
At 10 degrees.....68.117	At 55 degrees.....39.760
At 15 degrees.....66.821	At 60 degrees.....34.669
At 20 degrees 65.014	At 65 degrees.....29.310
At 25 degrees.....62.718	At 70 degrees.....23.725
At 30 degrees.....59.947	At 75 degrees.....17.957
At 35 degrees.....56.714	At 80 degrees.....12.049
At 40 degrees.....53.053	At 85 degrees.....6.048
At 45 degrees.....48.982	At 89 degrees.....1.211
At 90 degrees.....zero.	

(6) All places on the same meridian have the same time of day.

(7) The distance around the world on any of the parallels may be found by multiplying the length of a degree of longitude on the given parallel by 360. For example: The length of a degree of longitude on the 41st parallel is 52.269 miles; hence $52.269 \times 360 = 18,816.84$ miles, the circumference.

USES OF LATITUDE AND LONGITUDE.

3. Latitude and longitude are of use in determining the exact location of places, both on land and sea; the mariner on the wide ocean has no other way of describing his position. Thus, when we say Columbus is situated 40° north latitude, and 83° west longitude, we note the place where these two lines intersect to determine the location.

Hipparchus was the first philosopher who fixed the location of places by means of latitude and longitude. He was born at Nice, and lived about 140 B. C.

Longitude is also very useful in measuring time. Since the sun seems to pass entirely around the world, or over 360° , in 24 hours, it must pass over 15° every hour, and as the sun seems to travel westward, time is earlier west and later east. The difference of longitude between two places divided by 15, will give the difference of time in hours. Having given the time of a certain place, the time of a place west is found by subtracting the difference of time from that of the first named place; if east, by adding the difference of time.

CHAPTER IX.

ZONES.

1. **Zone** means belt or girdle.
2. The earth is divided into five *Mathematical* or *Astronomical* zones, bounded by the tropics and polar circles.

(1) **The Torrid or Hot Zone** lies between the northern and southern limits of the tropics. Some geographers classify the torrid into the north and south torrid.

(2) **The Two Temperate Zones** lie, one *north* between the tropic of Cancer and the Arctic circle, and one *south* between the tropic of Capricorn and the Antarctic circle.

(3) **The Two Frigid Zones** lie, one north of the Arctic circle, and the other south of the Antarctic circle.

WIDTH OF ZONES.

3. The *width of each zone* in degrees is as follows: Torrid, 47° ; temperate, 43° ; frigid, $23\frac{1}{2}^{\circ}$.

The width of the torrid zone is about 3,223 miles; the temperate zones each about 2,978 miles; the frigid zones each about 1,627 miles.

4. The width of the zones of any planet depends on the inclination of its axis.

If the earth's axis were inclined but 15° instead of $23\frac{1}{2}^{\circ}$ the tropics would be but 15° from the equator, and the polar circles 15° from the poles; consequently the north torrid zone would be 15° wide; the temperate zones 60° each; the frigid 15° each.

If the earth's axis were inclined 60° instead of $23\frac{1}{2}^{\circ}$ the tropics would be 60° from the equator, and the polar circles, or rather what corresponds now to the polar circles, would be 60° from the poles, or 30° from the equator; so that in this case there would be a belt 30° wide on each side of the equator, another belt north and south of 60° latitude about the poles, and a third belt between the other two.

EXAMPLES FOR PRACTICE.

What would be the width of each zone if the earth's axis were inclined 18° , 20° , 25° , 30° , 35° , 45° , 75° ?

AREA OF EACH ZONE: Torrid, 78,200,000 square miles; temperate, each 51,100,000 square miles; frigid, each, 8,250,000 square miles.

TORRID ZONE.

5. **The Torrid Zone** derives its name from the great heat which prevails here at all times.

There is never snow or frost here. The climate, or general character of the weather, is always warm; and instead of the seasons of spring, summer, autumn and winter, there are but two seasons, the wet and the dry. The wet season is called winter, and the dry season summer.

6. **At the equator, days and nights** are of equal length.

7. **The Vegetation** in the tropical regions is generally luxuriant. Fine fruits—such as oranges, lemons, pineapples, cocoanuts, and rich melons—abound; and often the ripe fruit and the opening blossoms hang side by side on the same tree. There are also delicious spices—as cinnamon, pepper, cloves, and nutmegs—with other choice productions, such as coffee, sugar, indigo, etc.

It abounds in the greatest variety of plants and flowers—the most profuse and beautiful that the eye can behold; the air is filled with the sweetest perfumes; and all nature seems alive in clothing the earth with beauty and enchantment.

8. Though thus favored by nature, these regions are subject to terrific whirlwinds, desolating earthquakes, and deadly fevers; besides, they are the abode of millions of tormenting insects and poisonous reptiles. Here is also the home of the lion and tiger, the giraffe and hippopotamus, the anaconda and crocodile, the rhinoceros and the elephant—the giants and wonders of the animal kingdom.

The Animals, too, are greater in variety, larger and stronger and more ferocious than those of the other zones.

The Inhabitants of the torrid zone are generally black or of a dark color. They are, for the most part, indolent, and live in slightly built dwellings. These effects are produced, in a measure, by the excessive heat which makes labor irksome.

TEMPERATE ZONES.

9. **In the Temperate Zones** the climate is mild; here are the four seasons, *spring, summer, autumn, and winter*; but the seasons of the *north* and *south temperate* zones are just *opposite*; while we have summer in the north temperate, winter prevails in the south temperate, and *vice versa*. A man's shadow which falls north in the north temperate zone, would fall south in the south temperate zone.

10. **The Fruits** in these zones are grapes, apples, pears, peaches, plums, cherries, strawberries, etc. The chief vegetable productions are wheat, rye, oats, barley, and maize, or Indian corn, also potatoes, beets, turnips, parsnips, and the like. In the warm parts rice and cotton are produced.

We see here the ox, horse, ass, camel, sheep, goat, and hog in a state of domestication; and in the forest, instead of the gigantic rhinoceros and elephant, are the wild boar, wolf, buffalo, elk, deer, fox, bear, and lynx.

11. In the temperate zones the *people* have generally a light or white skin. In the northern temperate zone they are characterized by industry, intelligence and energy. Here are the chief seats of human improvement and civilization. Here the people are generally well clad, and for the most part live in substantial and comfortable houses. Here have always existed the most powerful and most civilized nations of both ancient and modern times.

FRIGID ZONES.

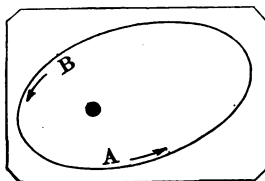
12. **The Northern and Southern Zones** are called frigid from the intense cold which prevails there for the greater part of the year.

13. The southern frigid zone is little known, though it appears that around the south pole there is either a continent or a group of numerous islands. The land here is uninhabited, and always covered with snow and ice. The northern frigid zone is better known.

14. The frigid zones have each but two seasons, a winter of nine months and a summer of three. *Vegetation* is confined to mosses and a few stunted trees, shrubs, and grasses, bordering on the temperate zones. None but the hardest *animals*, such as the reindeer, white bear, musk-ox, and a few others, find subsistence in these icy regions. Its waters, however, are the home of the largest sea animals, as the whale, walrus, seal, and the like. The *inhabitants* are few in number, of low stature and swarthy complexion, and find their chief subsistence along the shores of the frozen seas, upon seals, whales, and other marine animals. The *Aurora Borealis*, or northern lights, is seen in the greatest splendor.

VARIABLE LENGTH OF DAYS AND NIGHTS.

15. At the north pole the sun remains above the horizon for six months, during which time there is constant day, and then during the next six months constant night. This is not strictly true, owing to



to the elliptical form of the earth's orbit. It takes the earth longer to pass from A to B, during which time we have summer, than from B to A, during which time we have winter. It takes the earth nearly eight days longer to describe the remote half of its orbit than the near half. The summer, or the time the sun remains above the horizon,

is consequently about eight days longer than the winter.

The *refraction* of the sun's rays through the atmosphere causes the sun to appear above the horizon several weeks earlier and to remain several weeks longer above the horizon than it is in reality. This, together with the great length of twilight (about one month), relieves the north pole of much of the long, dark night which would otherwise brood over it.

16. **The Summer Days** increase in length as we go from the equator toward the poles. The following table exhibits the length of the longest days in the different latitudes:

Equator.....	12 hours	55 degrees.....	17.3 hours
10 degrees.....	12.7 "	60 degrees.....	18.7 "
20 degrees.....	13.3 "	Polar circles.....	24 "
Tropics.....	13.5 "	67½ degrees.....	1 month
30 degrees.....	14.0 "	69½ degrees.....	2 months
35 degrees.....	14.5 "	73.3 degrees.....	3 "
40 degrees.....	15.0 "	78.3 degrees.....	4 "
45 degrees.....	15.6 "	84 degrees.....	5 "
50 degrees.....	16.3 "	North pole.....	6 "

During the summer more than one-half the northern hemisphere is illuminated by the sun, and the farther north the greater is the circle of illumination on the parallels, until we get near the north pole, where the parallels are entirely under the sun's rays; hence the days grow longer as we go north. During the winter season the opposite is true.

Again, since during the summer season in the northern hemisphere more than one-half of each parallel is illuminated, the day is longer than the night.

17. If on the 21st of June we were standing on the Arctic circle, we would see the sun at midnight on the horizon just across the north pole, as the sun on that day shines beyond the pole to the Arctic circle. But a little south of the Arctic circle the north pole would hide the sun for a short time, and cause it to rise a little east of the north pole and set a little west of the same. Further south the region about the north pole would form more of an obstruction, and so hide the sun for a longer period, causing the sun to rise and set further south. Proceeding in this way, we would observe the sun rising further south but still north of east until we get to the equator, where it rises and sets nearly east and west.

The same explanation will serve to show why, during the summer season, the sun shines into the windows on the north side of a house.

CHAPTER X.

SEASONS.

1. The *change of seasons* is caused by the earth's annual and daily motions, and by the inclination and constant parallelism of its axis.

A change of seasons, such as is experienced in the polar regions, would be produced all over the world by the earth's annual motion alone; but a change of seasons as now exists requires the four causes given above.

2. The torrid zone has two seasons, a wet and dry, each six months long; the frigid, two seasons, winter and summer; and the temperate zones, each four seasons, spring, summer, autumn, and winter. The seasons of the two temperate zones are the same, but in an opposite order.

3. Owing to the elliptical form of the earth's orbit, the seasons are not of the same length. In the north temperate zone, spring has 93 days; summer, 93 days; autumn, 90 days; and winter, 89 days.

4. If the earth's axis were *perpendicular to the ecliptic* there could be no change of seasons, no variation in the length of days; the sun would always rise due east at 6 o'clock and set at 6 o'clock. Only a small portion of the world could be inhabited, and that in the tropical regions. The torrid zone would be divided into rainless belts, and belts on which the rain would fall like a continuous deluge.

5. If the earth's axis were *parallel to the ecliptic* the sun would appear to travel around the earth from north to south over the poles. Each pole would have one day and one night during the year, each

six months long. The sun would cross the equator twice in his annual course, and twice would days and nights be of equal length. The regions about the equator would have two summers and two winters, each three months long, during each year. If this were the case the world would not be habitable. The sun would be absent so long from one part of the earth that everything there would perish of the excessive cold. All the strength of the sun would be spent in thawing out the world, and ere this would be accomplished in one part he would be so far on his course that the earth would again begin to freeze.

BENEFITS ARISING FROM THE EARTH'S INCLINATION.

6. Here, as in all of God's works, we can see the infinite wisdom of the creator. If it were possible, the inclination of the earth's axis could not be changed without disastrous effects. The sun warms one side of the earth at a time, and so prepares it for the reception of seed, and after having given sufficient time for planting and gathering in a bountiful harvest, he, in a measure, withdraws his warm and genial rays to make glad the other hemisphere. Nearly the whole earth is thus made a fit abode for man. As we contemplate the sun in his majestic course through the skies, and behold how he alternately makes glad the inhabitants of the northern and southern zones by his invigorating powers, our hearts are made to swell with gratitude toward the author of all things, who giveth us every good and perfect gift.

CHAPTER XI.

GLOBES AND MAPS.

1. The art and practice of making maps and charts is called *cartography*.

2. Globes and maps are the ordinary means of representing the earth's surface.

3. **A Map** (*mappa*, a napkin, a signal cloth,) is a representation of a whole or a part of the earth's surface.

4. **A Map Projection** is a method of representing the earth's surface on a plane.

5. **An Atlas** is a collection of maps illustrating the same subject, bound in a volume.

6. **Mercator's Projection.** A map drawn on Mercator's projection has all the meridians and parallels straight lines. The regions near the poles are much exaggerated from their true form, so that maps on this projection are not correct representations of the earth's surface, but they show relative positions very correctly.

They were invented by General Mercator, a Flemish geographer, and are extensively used by navigators, in which the correct bearings of objects are of more importance than the true figures of countries. They are also used extensively in physical maps, to show isothermal lines, currents of air, water, etc.

7. **The Orthographic Projection** represents the earth's surface as it would seem to an observer viewing it at a great distance from the earth; the center of the map is delineated in nearly correct proportions, but the sides are much distorted.

8. **In the Stereographic Projection** the eye is supposed to be placed on the surface of the earth, and the surface to be delineated is the opposite hemisphere or a portion of it, the concave surface being turned toward the observer. This kind of a map is much used in our books on descriptive geography.

There are many varieties of the stereographic projection. The following are some of the principal:

(1) **An Equatorial Projection** is one in which the equator is taken as the center.

(2) **The Polar Projection** is one in which a pole is taken as the center of the map.

(3) **An Oblique Projection** is one in which parallels drawn from every point of a figure meet the plane of projection obliquely.

9. **The Conical Projection** is used when it is desired to represent only a small portion of the earth's surface, as a single country or state.

This method may be understood by supposing a cone of paper to be set upon an artificial globe in such a way that the paper touches the globe along the central parallel of the country to be shown on the map. The meridians and parallels on each side of this central one are then conceived to be brought up to meet the cone, and to be projected on it along with the outlines of the land between them. When the cone is unfolded it may be spread out on a flat surface. In this case the country lying along the central line of the map is very accurately represented, but there is some distortion along on each side, which increases as the area included in the map is extended.

10. **The Gnostic or Central Projection** represents the surface as it would appear to an observer at the center of the earth, supposing the earth to be a hollow sphere and the figures of land and water forms visible.

11. **The Globular Projection** represents the earth's surface as it appears to the eye of an observer at a distance from the earth equal to the sine of 45° ; the meridians intersect the equator at equal distances.

12. There is *another method* of constructing maps, in which the meridians are arcs of circles cutting the equatorial diameter at equal distances, and the parallels are arcs of circles cutting the polar diameter at equal distances; they give very good representations of the forms and relations of area, and are simple in construction.

13. In all geographical maps the top of the map is north; the right hand, east; the bottom, south; and the left hand, west.

14. **A Scale of Miles** is the ratio between distances on the map and the actual distances on the earth's surface.

CHAPTER XII.

POINTS, ETC.

1. The **Horizon** is a place or point where the earth and sky seem to meet.

2. The **Horizon Circle** is the entire line which bounds our view on the earth's surface. The latter is called the *sensible horizon*, to distinguish from the *rational horizon*, which is the great circle of the celestial sphere, parallel to the *visible* or *sensible horizon*, and which divides the earth into two hemispheres.

(1) The **Zenith** is a point in the heavens directly overhead.

(2) The **Nadir** is a point on the opposite side of the heavens.

The zenith and nadir are called the poles of the horizon.

3. **Antipodes** are those who live on the opposite side of the world from us.

4. **Antecians** are those who live on the opposite latitude, but on the same meridian.

5. **Perieciens** are inhabitants of the opposite side of the globe, in the same latitude.

6. A **Periscian** is an inhabitant within a polar circle, whose shadow during some portion of the summer must, in the course of a day, move entirely around and fall towards every point of the compass—a term now little used.

7. **Antichthon** is one of the inhabitants of an opposite hemisphere.

8. **East** is said to be the point where the sun rises, and *West* where the sun sets. *North* is the direction of the North Star, and *South* is the opposite point.

Since the sun does not always rise in the same place, it is not strictly correct to say that the east is where the sun rises. Twice only during the year does the sun rise due east and set due west; namely—at the autumnal and vernal equinoxes.

Neither would a man travel east or west if he should travel on one of the parallels. If a man should travel due east or west around the globe he would be obliged to cross the equator twice, at points 90 degrees east and west of his starting place, and reach a point south of the equator equal to the latitude of his starting point north of the equator. It is to be remembered that the terms east and west are not absolute but relative terms, as what was east an hour ago is not east now.

NOTE.—On the surface of the earth the east of any place may be considered as at right angles to the meridian of that place; but, as no two persons on the same parallel have the same east, corrections must be made between the points, a fact familiar to surveyors.

9. **Equinoctial Points** are points where the sun crosses the equator. Equinox means equal nights.

10. **Vernal Equinox** occurs the 20th of March; autumnal equinox on the 22d of September, at which times days and nights are equal.

11. The **Solstitial Points** are the sun's northern and southern limits. Summer solstice occurs on the 21st of June, and winter solstice on the 21st of December.

Solstice is derived from *sol*, a Latin word meaning sun, and *stare*, to stand; so named because when the sun has reached his limits north and south he seems to be stationary for a few days in the heavens.

12. The **Altitude** of a heavenly body is its distance, in degrees, above the horizon. There are 90° from the horizon to the zenith.

13. If, at the time of the equinoxes, you were standing on the north pole you would see the sun on the horizon, and his altitude would be zero; for every degree you go south the sun's altitude increases a degree, until you reach the equator, when the sun's altitude is 90° , or is in the zenith.

14. At the time of the equinoxes the sun's altitude, at any place at noon, is equal to the complement of the latitude of that place; that is, the difference between the latitude and 90° ; thus, the altitude of the sun at noon, on the 41st parallel at the equinoxes, is $90^\circ - 41^\circ = 49^\circ$. Since the sun seems to travel north and south from the equator $23\frac{1}{2}^\circ$, his altitude on the 21st of June is $49^\circ + 23\frac{1}{2}^\circ = 72\frac{1}{2}^\circ$; on the 21st of December, $49^\circ - 23\frac{1}{2}^\circ = 25\frac{1}{2}^\circ$.

15. To find the sun's altitude on any day, at any place, if the sun is north of the equator, increase the complement of the latitude of the given place by the sun's distance north of the equator; if the sun is south of the equator, diminish the complement of the sun's distance south.

16. The sun's distance in degrees north or south of the equator is called his *declination*. The sun's declination is greatest at the solstices ($23\frac{1}{2}^\circ$) and least at the equinoxes. The distance of the sun north or south of the equator, on any day of the year, can be obtained by means of a good globe.

PHYSICAL GEOGRAPHY.

CHAPTER I.

FORMATION OF THE EARTH.

The science of the origin or creation of the world or universe is called *cosmogony*.

Physical Geography has been defined as a treatise on the earth in its natural state. We must introduce our subject by a *general view* of the structure of the earth. The general theory is that the sun was once the nucleus or center of a nebulous mass, revolving on its axis; that this became condensed, and that rings were thrown off which afterward formed into planets. This theory considers the earth to have been first in a gaseous state, similar to comets.

By degrees its heat was dispersed and radiated into space, in consequence of which the particles became condensed, yet in a state of fusion. The process of cooling went on, until the external crust of the earth became hardened into the solid materials of which we see it composed, yet leaving the central mass in a state of incandescence.

At first, in the process of cooling, the crust of the earth was perhaps broken and torn, thus presenting the rugged aspect the telescope now unfolds to view in the moon. The pent up fires within would seek vent, the volcanoes would disgorge their contents, and the earthquakes would shake and dislocate the land and the sea.

The rain and the tempest now began their work. Particles of earth were disengaged from the mountains, and borne by the floods to the valleys, and a soil was thus formed for vegetation.

After many changes, extending through millions of years, that sublime revolution which established the present arrangement of ocean and continents, and the present races of animal and vegetable life, as described in the opening books of the Bible, was effected.

We have not the space to follow out in detail this wonderful history.

It must be sufficient to state that we now find the earth consisting of an exterior crust, composed of layers of rock and soil of different kinds, probably enclosing a mass of melted matter in the center.

These layers or strata are thrown one upon another in almost every possible position. Some of them are horizontal, others vertical, and

others inclined at various angles. These beds or strata, which are found at the greatest depth to which man has been able to penetrate, are called *primary*, and are supposed to have been first formed.

Those strata which are found lying upon primary rock, and contain the remains of animals and vegetables, are supposed to have been formed at a subsequent period, and are called *secondary*.

These beds, usually found reposing upon the secondary strata, composed of the fragments of both primary and secondary rocks, are called *tertiary* or alluvial formations, and are supposed to be of more recent origin than either of the latter classes.

This theory does not deny the creation of the world as described by Moses, but, on the contrary, is perfectly consistent with the narrative as recorded in the first chapters of Genesis.

The plan of creation is a glorious subject for contemplation; everything has shaped itself as it occurred in the mind of the creator from the beginning, and has acted in perfect obedience to the laws of the Almighty, as laid down at the foundation of the world.

CHAPTER II.

DIVISIONS OF THE EARTH'S SURFACE.

Our globe, as a whole, comprises three grand divisions—Land, Water, and Atmosphere.

The surface of the earth is divided into land and water—about one-fourth is land and three-fourths water.

The greatest mass of land lies in the northern hemisphere. The greatest mass of water lies in the southern hemisphere. Also, the eastern hemisphere contains the greater portion of land, and the western the greater portion of the water surface.

LAND SURFACE.

1. **A Natural Division** is a division of the earth formed by nature, as islands, continents, lakes, mountains, etc.

2. **A Political Division** is a division of the earth formed by man, as Ohio, France, Hardin county, etc.

3. **A Natural Boundary** is one formed by nature, as rivers, lakes, mountains; and the like.

4. **A Political Boundary** is a boundary line between political divisions. For example: The line that separates Ohio from Indiana is a political boundary. The Ohio river, on the south, is a natural boundary, but the political boundary between Ohio and Kentucky is a line passing through near the middle of the river.

5. **The Land Surface** may be classified into two general divisions: first, as to the horizontal projection, called *contour forms*; second, as to its vertical elevation, called *relief forms*.

CHAPTER III.

CONTOUR FORMS.

1. By the **Contour** of a country is meant its coast.
2. **A Coast** or shore is the land bordering upon a lake or the sea.
3. **A Continent** is one of the largest *natural* divisions of land. There are three continents, viz.: the Western, the Eastern, and the South-eastern or Australian continent.
4. **A Grand Division** is one of the principal divisions of a continent, and often contains many countries. The Western continent contains North and South America; the Eastern, Europe, Asia, and Africa.

Recent discoveries have led to the supposition that there is a continent around the south pole, which has received the name of the *Antarctic Continent*.

The islands of the Pacific ocean have received the name of *Oceanica*.

5. **An Island** is a body of land smaller than a continent, and entirely surrounded by water.

(1) Islands are classified into *Continental* and *Oceanic*.

(2) **Continental Islands** are those lying near or extending along the coasts of larger bodies of land, and seem to be detached portions of the latter.

(3) **Oceanic Islands** are those lying in the midst of the sea.

(4) Islands may be further classified, as regards their structure, into volcanic and coral.

(5) **Volcanic Islands** are those which have been formed by volcanoes, as the Aleutian, and some of the West Indies.

(6) **Coral Islands** have been formed by the coral insect, a very small sea animal. The Great Barrier Reefs and the Bahamas are examples.

(7) **A Reef** is a chain of rocky islands at or near the surface of the water. A *Key* is a coral island, rising a little above the surface of the water, as the Florida Keys.

6. **A Peninsula** (*pene*, almost, and *insula*, an island,) is a large portion of land extending into the sea, and in many instances almost surrounded by water, as South America, Florida, etc.

7. **An Isthmus** is a narrow neck of land joining two larger bodies of land, as the Isthmus of Panama, which joins North and South America.

8. **A Cape** is a point of land extending into water. A high and rocky cape is called a *Promontory*. The southern part of America is called Cape Horn; that of Africa, Cape Agulhas.

9. **An Archipelago** is a cluster of islands in the sea.

CHAPTER IV.

RELIEF FORMS.

1. **A Plain** is a great extent of land, level or nearly level.
2. **A Low Plain** is less than 1,000 feet above the level of the sea.
3. **A Plateau** is a plain 1,000 feet or more above the sea level.

Although the following variety of plains—prairie, pampas, selvas, etc.—are not characterized wholly by relief, nevertheless it has been thought best to describe them here.

4. **A Prairie** is a large, treeless plain covered with grass, found in the United States. *Prairie* is a French word, signifying meadow.

5. **A Pampas** is a plain of this kind in South America. They occupy a large part of Argentina, and some of the adjoining countries.

6. **Steppes** are extensive treeless plains in the south-eastern part of Russia, and in Asia. Some of them are covered with grass, like the prairies of North America; others are covered with scanty vegetation, and are almost barren.

7. **The Llanos** are plains in South America, one-half of the year barren and the remainder of the year covered with rich vegetation.

8. **Selvas** are extensive plains in the valley of the Amazon, covered with trees.

9. **A Savanna** is a plain of grass, affording pasturage in the rainy season, but a few shrubs also grow upon it. It is only the zone which makes it to differ from a prairie.

10. **A Heath** is a level tract covered with the plant from which the name has been derived.

11. **Deserts** are barren tracts of land, usually consisting of sand. The Sahara in Africa, nearly three times as large as the Mediterranean sea, is more than 2,000 miles long. Travelers, in crossing it, are sometimes overwhelmed by drifting clouds of sand.

(1) A fertile spot in the desert is called an *Oasis*.

(2) *Oases* are caused by springs in the desert, the water spreading out over the land and fertilizing it.

12. **The Tundra** are frozen marshes in northern Russia and Asia. *Swamps* and *marshes* are tracts of land covered for the most part or filled with water.

13. **A Mountain** is a great elevation of land, 1,000 feet or more above the surrounding country; but in measuring their height we measure from the sea-level. All elevations or depressions are measured from this level.

14. **A Hill** is an elevation not so high as a mountain.

15. **A Mountain Range or Chain** is a number of mountains connected at their base and extending in a line.

16. **A Mountain System** is several parallel ranges trending through the same portion of the country.
17. **A Spur** is a range branching out from another range.
18. **The Trend** of a mountain range is the direction in which it extends.
19. **The Crest** of a range is an imaginary line extending along its top.
20. **A Mountain Cluster** is a group of mountains; as the White mountains, of New Hampshire.
21. **A Mountain Knot** is formed where the ranges cross each other.
22. **The Axis** of a continent is its chief mountain range. The Andes are called the axis of South America; and the Alps of Europe.
23. **The Summit** of a mountain is its highest point.
24. **The Base** of a mountain is the bottom, or that upon which it is supposed to rest.
25. **The Slope** is the sides from base to top.
26. **Peaks** are the highest points in a range.
27. **Passes** are breaks or depressions in a range.
28. A narrow passage is called a *Gorge*.
29. **A Valley** is the land lying between mountains or hills.
30. The principal depressions below the sea-level are :

The Dead Sea	1,294 feet
Caspian and Aral Seas	84 feet
Desert in North Africa	340 feet
Lake Bahr—Assal, Abyssinia	570 feet
Dead Man's Valley, California	100 feet
Holland	16 feet

CHAPTER V.

GENERAL VIEW OF MOUNTAINS.

1. **Orology** treats of the structure and formation of mountains.

It will be observed that the principal mountain ranges *extend in the direction of the length* of a continent, island or peninsula. The *largest range* or *system* faces the largest or deepest body of water. Where the *water pressure* seems to be the same on both sides, as in the case of islands or peninsulas, the mountains trend through the middle.

For example: The Andes, of South America, face the Pacific; the Mountains of the Moon, in Africa, face the Indian ocean; the Rocky mountains face the Pacific, and the Apalachian, a lower range, face the Atlantic. In the Scandinavian peninsula the Kiolen mountains are nearer the Atlantic; in the islands, Cuba, Madagascar, Java, etc., the ranges trend through the middle.

2. Various reasons have been assigned for this peculiarity. It is doubtless owing to the contraction of the earth, caused by the cooling of the central mass, thus producing folds or upheavals and depressions

in the crust of the earth. In these depressions the waters of the clouds would gather when the earth became cool enough to rest upon it. The water filling these depressions would force the crust of the earth down by their great weight, and accordingly other portions of the earth's surface must rise to accommodate the new position.

Breaks or folds in the earth's crust would be made near the shores, and increased in proportion to the downward pressure of the sea. Hence, it can easily be seen why mountains should be highest near the deepest body of water, and that where the lateral pressure is the same on both sides, or on all sides, the mountains should occupy a central position, as was noted in the case of islands, peninsulas, etc.

Large land areas have successions of folds produced in this way, with the highest in the middle, thus making mountain systems.

3. The process of mountain making has not been confined to ages long ago; but, even at present, the same forces are at work. The Aleutian islands are of recent formation, some of which have been formed within the memory of man. Mt. Jurullo, in south-western Mexico, was thrown up during the year 1759 to a height of 3,000 feet; and this, too, in one of the most beautiful and fertile plains of the country.

GRADUAL ELEVATIONS AND SUBSIDENCES.

4. Besides the great and sudden changes made by the internal forces, others take place slowly but constantly, by which large portions of the earth's surface are raised or lowered. The Scandinavian peninsula is slowly rising in the north and sinking in the south. Southern Greenland is sinking. The North American coast from Labrador to New Jersey is rising. Holland is sinking. The range of the Andes, especially near Chili, is rising. The central portion of the Pacific ocean, covering an area of 6,000 square miles, is slowly sinking.

UTILITY OF MOUNTAINS.

5. "Mountains form a most important part of the mechanism of the world, and show special adaptation and design."

(1) The highest mountains are found in the equatorial regions, where they, by the different temperatures of their sides, furnish a varied vegetation and increase the area of land.

Mountains are the natural refrigerators of the world; the cold currents of the upper regions meeting with the warm currents in the valleys, cause rains; by them rains are distributed more evenly than without them, and many a fertile region now teeming with vegetation would be destined to hopeless barrenness should they be leveled down.

(2) They contain the vast supply of minerals, which have contributed so largely to the progress and civilization of the world; they form natural boundaries between countries, and in their fastnesses have been bulwarks of defence and an asylum of liberty in all ages of the world.

(3) Nor must we forget to mention how much they add to the beauty of our earth in breaking the dull monotony of an otherwise uniformly level expanse. By them rivers are made to leap into existence, which bear on their bosoms the treasures of the world, and which, by the exchange of products of different lands, give employment, comfort, and happiness to busy millions of the earth's inhabitants.

While in a few instances they produce barren wastes, yet they make glad a thousand places, by their beneficent uses, and we could ill afford to do without them.

Remove the mountains and you destroy much of the earth's fertility, use, and beauty. Here, as in all God's works, we see the goodness and wisdom of the creator manifest, and our hearts go out toward him in gratitude and praise for his wonderful works.

CHAPTER VI.

VOLCANOES.

1. **A Volcano** is a mountain which does or has at some time cast out fire, smoke, melted lava, etc., from its interior.

2. They may be classified as *active*, *extinct*, *semi-extinct*, and *intermittent*.

Intermittent Volcanoes are characterized by intervals of repose, sometimes of centuries in duration.

Semi-extinct Volcanoes do not eject any solid matter, but issue forth smoke, gasses, and vapor through cracks in the ground.

3. A volcano which has ceased to burn is said to be *extinct*; a burning volcano is said to be *active*.

4. The upper part is cone-shaped by the ejected matter, and forms a hollow or bowl-shaped cavity called the *crater*. The most remarkable crater is found in the volcano of Kilauea in Hawaii. It is seven and one-half miles in circumference, three long, and one broad, and sinks more than 1,000 feet below the level of the plain.

VOLCANIC FORCES.

5. The tremendous force of volcanoes as displayed by their energy is truly remarkable; huge stones are thrown to a height of 2,000 and 3,000 feet, and Cotopaxi has been known to hurl rocks of immense size many miles. Whole continents are lifted up and the entire topography of countries has been changed; fields and forests have been thrown out of their positions by this mighty force.

NUMBER OF VOLCANOES.

6. There are above 400 volcanoes in the world, of which more than 175 are in America. According to Johnston, 207 are more or

less active. It is said 350 exist along the shores of the Pacific and on its islands.

ARRANGEMENT AND POSITIONS OF VOLCANOES.

7. As to their arrangement, volcanoes are classed into two systems, *central* and *linear*.

(1) **Central Volcanoes** consist of a number of small cones grouped around a larger cone which is the seat of eruptions. Examples of the latter are found in Iceland and in the Canary islands.

(2) **Linear**, as their name indicates, are arranged in lines at various intervals. Examples of the latter are found in the immense chains of mountains bordering on the Pacific ocean.

(3) It is found, too, that by far the greatest number of volcanoes are found in or on the borders of the ocean, of which the Pacific has the largest share.

It is thought that the waters of the sea find their way into the interior of the earth, and, by being converted into steam, produce an immense energy which finds vent in the mountains near the coast, as it is here the crust of the earth was first broken in the formation of mountain ranges.

8. Again, by far the greatest number of volcanoes is found in the equatorial regions. The reason given is, that the earth began to cool at the poles, and accordingly the crust of the earth is thinner near the equator. Hence, if force were exerted from the interior the crust would be more likely to break where it is thinnest. In the second place, the centrifugal force is greatest at the equator and diminishes toward the poles. This would assist in fracturing the earth about the equator and lead a way of escape to the internal fires of the earth.

THEORY OF VOLCANOES.

9. Many theories on the cause of volcanoes have been presented; but the most generally accepted theory is, that the earth's interior is a molten mass, and that this fluid is likely to be disturbed by the expansive force of vapors and gasses, or the accumulation of electric matter directed in currents along the strata of the earth's surface or crust. This accumulates until the earth's crust is no longer able to restrain its force, when fissures and openings through the crust take place, causing all the commotions already described. Volcanoes are sometimes termed the *safety-valves of the earth*, and when by any means they become clogged or stopped, all the dire results of an earthquake must follow.

CHAPTER VII.

EARTHQUAKES.

1. **Earthquakes** are quakings or commotions of the solid crust of the earth, more or less extended.

2. These movements are of three kinds, viz.: *vertical*, *horizontal*, and *rotary*.

(1) The vertical is an upward movement, often throwing objects a great distance.

(2) The horizontal, according to Brocklesby, is of a twofold character, tremulous and undulatory; the first consists of tremblings or tremors of the earth, and the second of wave-like motions, and are very destructive. It consists in a rising and falling, like the waves of the sea.

(3) The rotary motion consists in twisting the objects around without overthrowing them, and is fearful in its effects. The cities of Calabria in Italy, and Valparaiso in Chili, suffered severely by this kind of movement—the former in 1818 and 1783, the latter in 1822.

3. Uses of Earthquakes.

(1) Fire and water are two powerful opposing elements. The tendency of the latter is to reduce everything to a dreary level; the former to break the monotony of the earth's surface by causing variations of elevation. Wisely these two forces are constantly at work, according to a harmonious law.

(2) Volcanic force has made mountains, hills, plains and valleys, while water has reduced the rocks to soil and strewn it over the surface, thus making the earth's surface fit for the growth of plants and for the abode of man and animals.

(3) Vast treasures of mineral wealth, otherwise inaccessible, have been brought to the surface by this powerful volcanic force.

EXAMPLES OF EARTHQUAKES.

The cities of Herculaneum and Pompeii, A. D. 79, were utterly overthrown with a shower of ashes from Mt. Vesuvius.

In the year 1755 the city of Lisbon was destroyed; 60,000 of her inhabitants perished, and an area equal to four times Europe was disturbed.

In 1783 all the towns within a radius of twenty miles from Appedo, in Calabria, were destroyed, and 100,000 lives lost. Many objects were entirely twisted around without overthrowing them.

The town Simoda, in Japan, was destroyed in 1854, and a wave of such magnitude came in from the sea that it overwhelmed the place, and was propagated to the coasts of California.

The city of Caraccas in 1812 was completely overthrown, and 10,000 people were killed.

In the latter part of 1811 and the beginning of 1812 New Madrid, in Missouri, suffered severely, and a tract seventy-five miles long and thirty broad was depressed, and the surface features considerably altered.

New England has suffered at various times—in 1638, 1662, and in 1755—but with no great loss.

The earthquake shocks of 1868, 1865, and 1812 did considerable damage in California.

The most destructive earthquake in the United States occurred at Charleston, South Carolina, August 31, 1886, when a large portion of the city was destroyed.

Between the years 1600 and 1842 about 7,000 earthquakes took place.

The East Indies is the most active volcanic region on the globe. Java, the center of this region, contains forty-five active volcanoes.

The highest volcano in the old world is Kluchev, of Kamtchatka, 16,500 feet high; the highest in the new world is Gualatieri, 21,960 feet high.

CHAPTER VIII.

WATER DIVISIONS.

1. • Water is composed of two invisible gases—*oxygen* and *hydrogen*; in weight, eight parts of the former and one part of the latter; in volume, one part of the former and two parts of the latter.

2. The water of the earth is divided into three divisions or systems, viz.: *oceanic*, *land*, and *atmospheric*.

3. The first comprises the ocean with all its branches, and with all its movements.

The second all the water of the land, and includes rivers, lakes and springs.

The third the moisture of the atmosphere in any state whatever.

4. If all the waters of the sea were evenly distributed over the earth they would cover it to a depth of 10,000 feet.

5. A careless observation might lead us to think that there is a great waste in this extent of oceans, and that the earth would have been better arranged with three-fourths land and one-fourth water. But it is not so; our rains come mainly from the sea, and under the present arrangement there is no more rain on an average than is needed. Increase the area of land and more rain will be needed to fertilize it, and there will be less water area to supply the moisture. To increase the land area could bring nothing but disastrous effects, and a very large per cent. of the land would become desert from the lack of sufficient moisture.

6. The *water surface* of the earth is divided into oceans, seas, gulfs, straits, channels, etc.

CHAPTER IX.

OCEANIC SYSTEM.

1. **An Ocean** is the largest natural division of water. There are five great oceans, viz.: the Atlantic, Pacific, Indian, Arctic, and Antarctic. The Pacific is the largest, having an area of about 65,000,000 square miles. The area of the others is as follows: Atlantic, 35,000,000; Indian, 30,000,000; Arctic, 6,000,000; Antarctic, 4,500,000.

2. **A Sea** is a large body of salt water smaller than an ocean; there are two classes of seas.

(1) **Inland Seas** are those nearly or entirely surrounded by land; as the Red sea and Caspian sea.

(2) **Border Seas** are those cut off from the ocean by peninsulas or islands; as the Arabian and Caribbean seas.

3. **A Gulf or Bay** is a body of water extending into the land.

4. **A Road-Stead** is a part of the open sea, near the shore, where vessels may ride at anchor in safety.

5. **An Inlet** is a narrow bay.

6. **A Harbor** is a sheltered bay or inlet, where vessels may anchor or come to land. Other small inlets are *coves*, *havens*, and *fiords*.

7. **A Firth or Fiord** is an inlet, usually with steep shores.

8. **A Sound** is a shallow bay or channel.

9. **A Strait** is a narrow passage of water joining two larger bodies of water. A *channel* is a wide strait.

10. **A Bight** is a very large, open bay.

11. **A Bayou** is a stream derived from a lake or a river. In Louisiana, the Mississippi and Red rivers, in the flat regions, send off many such branches to the sea. This term is also applied to tidal channels on the shores of the sea, and is peculiar to the Gulf states.

12. **A Lagoon** is a shallow lake near the sea.

13. **A Bank** is a shallow part of the sea.

SALTNESS OF THE SEA.

14. The water of the ocean is salt. This is caused by rivers carrying salt in solution into the sea. No water escapes from the sea except by evaporation; and as only the fresh water evaporates, the salt remains, and in course of time the salt has accumulated.

15. The freshest water we have in our springs and rivers contains a small quantity of salt, and although in the earlier ages of the earth's development these waters must have been much more salt than now, yet it must have taken many thousands of years to dissolve the salt of the earth and carry it into the sea. About 2.7 per cent. or twenty-seven-thousandths of sea water is salt; six-tenths magnesia, and one-tenth lime. *Salt lakes* were formed in the same way.

It is not strictly true that no salt escapes by the evaporation of sea water. It is, however, but a very small per cent. which passes off with the rising vapors. The rains which fall on the islands of the mid-ocean contain sufficient salt, so that the inhabitants need not feed their cattle salt as do the inhabitants on continents far inland.

16. The *quantity of salt* in the sea is simply enormous. Estimating the average depth of the sea at two and one-half miles, the salt, if abstracted from the sea, would cover all North America to a depth of more than one mile. It is estimated that there are 200,000 tons of silver in the sea, besides vast quantities of other minerals.

17. The *benefits* arising from the saltness of the sea are important.

(1) The saltness of the waters, together with their constant agitation, prevents the sea from becoming corrupt.

(2) Salt water is heavier than fresh and not so easily tossed about by the winds. Vessels are thus enabled to carry heavier burdens.

(3) The sea freezes at a temperature of 26° Fahrenheit, while fresh water freezes at 32° . Hence the sea is less icebound than otherwise.

(4) According to Maury, the salts of the sea are among the chief agents in producing ocean currents.

18. The bottom of the sea is like the land, consisting of hills, mountains, valleys, plateaus, etc. Geologists tell us much of the bottom of the sea was formerly dry land, such as continents, islands, etc.; that present continents seem to have been successively dry land and the beds of oceans, until the crust of the earth took its more stable and permanent place, as it now appears.

CHAPTER X.

DEPTH OF THE OCEAN, ETC.

1. The depth of the ocean is various. The Indian ocean is generally considered the deepest. A depth of nearly nine miles is said to have been reached in the north-eastern part by Captain Ringgold.

2. The average depth of the Pacific has been computed to be about 12,000 or 13,000 feet, taken from the velocity of the tide wave.

3. The average depth of the Atlantic is about two and one-half miles. The *Telegraphic Plateau* extends from Newfoundland to Ireland; the depth of the Atlantic here ranges from 10,000 to 13,000 feet. Upon this oceanic plateau the first Atlantic cable was laid. The greatest depth of the Atlantic which can be given with any degree of accuracy is 25,000 feet.

All geographers agree that the three great oceans increase in depth toward the south.

Little is known of the depth of the Arctic and Antarctic.

4. The color of the ocean is a deep, rich blue, but in shallow waters it has a greenish tinge. However, the color changes much with the changes of the sky. The color of the sea is said to be due mainly to its saltiness. Fresh water has a greenish tinge, while salt water is blue in proportion to the salt it contains. If very salty it has a reddish hue.

5. In many places the sea assumes different hues owing to the admixture of foreign matter, as in the case with the Red sea, so named from the color of its waters, due to coloring matter of vegetable origin. A small quantity of the water of the sea seems colorless.

6. The temperature of the ocean changes with its depth until a constant temperature of about 39° Fahr. is reached. At the oceanic equator this is reached at a depth of 7,200 feet; at 70° south latitude 39° Fahr. is reached 4,200 feet below the surface; and in about 56° south latitude the constant temperature exists at the surface.

7. **The Oceanic Equator** is the line of greatest heat in the waters of the sea. Its highest temperature, in 28° north latitude, is about 89° . In the Indian ocean it is about 87° .

8. The phosphorescent light, seen in many waters, is caused by small marine animals which have the power of emitting light like the glow-worm or fire-fly.

CHAPTER XI.

MOVEMENTS OF THE OCEAN.

1. **The Three Great Movements** of the ocean are tides, waves and currents.

2. **Tides** are the regular risings and fallings of the ocean, caused by the unequal attractions of sun and moon.

(1) **Flow Tide** is the tide coming in.

(2) **Ebb Tide** is the tide going out.

(3) **It is High Tide** when the waters have reached their highest point.

(4) **It is Low Tide** when the waters have reached their lowest point.

(5) When the sun and moon act in conjunction, that is, when they are on the same side of the earth or on opposite sides, the tides are higher than at any other time, and are called *spring tides*. These tides occur at every *new* or *full* moon.

(6) When the sun and moon are in opposition, that is, when one of them is in the horizon and the other in the zenith or nadir, tides are lower than at any other time, and are called *neap tides*. These tides occur at first and last quarters of the moon.

TIME OF TIDES.

3. The difference of time between two high tides or between two low tides is about 12 hours and $26\frac{1}{2}$ minutes. The difference of time between two successive spring tides is one-half of a lunar month, or a little more than $14\frac{1}{2}$ days.

HEIGHT OF TIDES.

4. The sun's attractive force upon the earth's waters is to the moon's attractive force as 2 to 5, so that when they act together the waters will rise 7 units, but when they act in opposition the tide will rise but $5-2=3$ units.

(1) In the middle of the great ocean the tide wave is about three and one-half feet. On lakes tides are scarcely perceptible, as they are such comparatively small bodies that all parts are attracted nearly equally.

(2) When the tide wave rushes up bays having wide mouths the waters are so much crowded together that they sometimes rise to an

enormous height by the time they reach the narrow part of the bays at their head.

Such is the case in the Bay of Fundy, where the tides rise from seventy to eighty feet; within the British channel at Malo, in France, the tide frequently rises to an altitude of fifty feet.

VELOCITY AND DIRECTION OF TIDE WAVES.

5. At the equator the tide waves move with a velocity of 1,000 miles an hour, but diminish toward the poles.

If the earth were covered to a uniform depth with water, the tide wave would move due west, and if there were no friction, or inertia, it would keep directly under the moon.

But owing to the obstructions caused by the land and by the irregularities in the bed of the ocean, tides are deflected out of their normal course and made to flow in all directions. In the Atlantic ocean the tide wave moves nearly north on the coast of North America, and to the north-east near Europe.

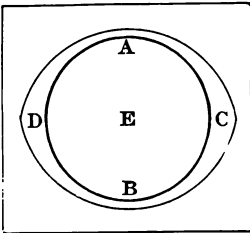
6. **Cotidal Lines** are lines drawn upon maps showing what places have high tides at the same time.

7. **A Lunar Tide** is a tide produced by the moon alone.

8. **A Solar Tide** is a tide produced by the sun, independent of the moon.

WHY WE HAVE HIGH TIDES ON THE OPPOSITE SIDES OF THE GLOBE.

9. It is, perhaps, not yet well understood why high tides should occur at opposite points at the same time. The theory here given is the one commonly received.



E represents the Earth and M the Moon.

The solid part and waters on any portion of the earth are equally attracted; but the solid part will not move, whereas the particles of water are free to move about each other. C being directly under the moon will be more attracted than A and B; hence, the waters will be drawn away from these two points and filled up around C; again, C being nearer the moon than D, will be more attracted than D; for the moon's force diminishes as the distance increases. The waters about

D, therefore, will be left to a certain extent free to act in accordance with the law of liquids when left free (viz., to assume a globular form); and will, in consequence, pile up around D to a height equal to that at C. The diminished attraction at D is equal to the increased attraction at C.

9. The origin of the great tide waves is not far from the southwestern shore of South America.

10. **Derivative Tides** are the tides perceptible in the rivers and seas connected with the ocean, inasmuch as they are portions of the great oceanic tide waves. When a tide enters suddenly the mouth of a river abounding in shoals and obstructions, the flow of the waters is called a *bore*.

These tides are well known in the Amazon, Severn, and Ganges rivers.

CHAPTER XII.

WAVES.

1. **Waves** are the alternate risings and fallings of the waters of seas, lakes, etc., caused by winds. Waves, unlike tides, do not affect the waters of the sea to the bottom; but the disturbance extends only along the surface to limited depths.

2. The highest waves occur off the Cape of Good Hope during a north-eastern gale, when the waves sometimes rise forty feet above the general level of the ocean. The general height of waves is about six feet.

3. The crest of the wave is the top; the trough is the depression between two successive waves.

4. The distance between two successive crests varies from ten to twenty times their height. Thus waves four feet high have their crests forty feet apart; waves thirty-three feet high, about 500 feet apart.

5. The velocity of waves varies with the breadth of the wave and depth of water. A wave 100 feet broad, and in water 100 feet deep, moves about fifteen miles per hour. A wave 10,000 feet broad, and in water 10,000 feet deep, moves 154 miles per hour.

6. The force of the highest waves against the rocks along the shore is 6,000 pounds to the square foot. Such a tremendous force we can not comprehend with our limited powers of mind.

7. When the waves roll toward the shallow places, so that the bottom of the wave strikes the solid earth, the top of the wave pitches forward and forms *breakers*; and where these extend through a long line of shore, take the name *surf*. After the storm has subsided the billows continue to roll, and are projected far from the scene of the storm. This is called a *ground swell*.

CHAPTER XIII.

OCEAN CURRENTS.

1. **Ocean Currents** are vast streams of water flowing through the ocean.

ORIGIN.

2. Their origin is attributed to the rotation of the earth; to the difference in the densities of the waters of the equatorial and polar regions; to the immense evaporation at the equator; to the tides, winds, melting of polar ice, and the like.

3. There are three classes of currents: Constant, Periodical, and Local.

4. *Local currents* are produced by tides driven through narrow and tortuous channels; as, in the Maelstrom of Norway and Roost of Sumburgh, at the southern promontory of the Shetland islands.

5. Currents produced by constant and prevailing winds are called *drift currents*.

6. A *counter-current* is one that flows in an opposite direction to the main current.

7. Ocean currents are also classified with respect to their position, as *marine* and *submarine* — the former flowing at the surface and the latter under the surface.

GULF STREAM.

8. The most remarkable and most important of all currents is the *Gulf Stream*. It is a continuation of the Atlantic equatorial current, which originates near the equator and flows west from Africa towards America. Passing along the northern shore of South America and into the Gulf of Mexico through Yucatan channel, sweeping in a curve forced by the shape of the coasts of Mexico and the United States, it is finally driven through the narrows of Florida strait, where it receives so great an impetus that its waters are at once quickened into a velocity of five miles an hour, and here receives the name of Gulf Stream.

(1) The velocity diminishes as the stream flows onward, until it reaches a velocity in the northern Atlantic of only two miles per hour.

(2) Its color is a dark indigo, and is so distinctly marked that the line of separation from the other waters is clearly traced.

(3) Its width at the point where it emerges from Florida strait is less than fifty miles, and in its course grows broader and more shallow, until in the far north its breadth is more than 1,000 miles.

(4) Near the southern shore of Newfoundland it is divided by the Grand Bank, and one branch turns to the south-east, flowing across the ocean, returns to the equator, having made a complete circuit.

(5) Its temperature near the coast of Florida, at the surface, is 86°, that is, 9° higher than the surrounding ocean, and in 10° of latitude loses but 2° Fahr.

(6) Western Europe owes nearly all it is and ever has been to this remarkable stream. The climate is raised by its genial warmth 10° above that of America in the same latitude. If it were possible to change the course of the Gulf Stream, the British Isles would become ice-blocked and as barren and unfruitful as Labrador. Vessels sailing on the bosom of its genial waters always enjoy a summer temperature.

(7) Its influence on the climate of the United States is scarcely perceptible, since the winds blow chiefly from the west; and then again, a cold Arctic current flows between the United States and the Gulf Stream. For many miles it is at the bottom of the Gulf Stream, and actually forms the bed on which the latter flows. The meeting of the waters of the latter with those of the Arctic currents near Newfoundland produces those dense fogs experienced there.

9. The *Japan Current*, flowing along the eastern coast of Asia, is a stream very similar to the Gulf Stream. Its velocity varies from thirty-five to eighty miles per day, being greatest at Yeddo. The temperature is about 12° above that of the surrounding sea.

10. The *North Pacific Drift Current*, the southern branch of the Japan Current, skirts the western shores of North America, and by its warmth softens the rigors of this clime. At length it bends to the west and merges into the *Pacific Equatorial*.

We have neither time nor space to give a detailed account of all or of even the most important currents, together with all the disturbing causes relative to their directions and velocity. It will be observed that the land and irregularities in the floor of the ocean cause deflections in their courses as in the case of tides. The subject becomes an extremely intricate one, and entirely too vast for a work purely a school geography.

BENEFITS OF OCEAN CURRENTS.

11. We will conclude by adding a few of the benefits derived from ocean currents.

First. — The constant agitation of the waters produced by tides, waves, and currents, prevents the waters from becoming corrupt; otherwise the sea would become a stagnant, fetid expanse, breeding disease and pestilence.

Second. — Ocean streams assist in navigation; a vessel sailing in the direction of the stream will add the velocity of the stream to the ship's velocity; thus quickening the speed and shortening the time of the voyage.

Third. — They distribute the heat and cold of the globe. The warm currents carry the surplus heat of the equator to the north, mitigating the excessive cold of the polar climes, while the Arctic currents bring their refreshing coolness to the feverish tropics. The whole tendency is to equalize the heat of the earth.

Fourth. — Ocean currents have been instrumental in clothing distant isles with a luxurious vegetation, carrying the germs and seeds, and

even man, entrusted to them by nature's God, and scattering them to the uttermost parts of the earth.

Nothing which the eye can behold on this earthly sphere shows the goodness and wisdom of the Almighty more than the great oceanic currents. It has all been done for the comfort and happiness of man. Even the sea is made to yield to man's necessities, and under laws given and enforced by divine power, it keeps the earth pure and healthful, and makes it a pleasant place in which to live.

"Thanks be unto God for his unspeakable gifts."

12. **Sargossas** are vast areas encircled by ocean currents and covered with sea-weed, sometimes so densely matted as to hide the water. The *Atlantic Sargossa* is the largest, and lies between 20° and 65° west longitude, and between 18° and 28° north latitude.

CHAPTER XIV.

LAND SYSTEMS OF WATER.

The water which falls upon the earth has three modes of escape; one part runs off immediately through surface channels, as creeks, rivers, etc.; another part sinks into the soil, and the third part evaporates into the air.

RIVERS.

1. **A River** is a stream of water flowing in a channel to the sea, a lake, or another river.

2. **A Branch or Tributary** (also called *affluent*) is a stream flowing into another river. The *course* of a river is the general direction in which it flows.

3. Small streams are called *brooks, creeks, rivulets*, etc.

4. **A River System** is a river with all its tributaries.

5. **A River Basin** is the entire area drained by a river system.

6. **The Velocity** of a river depends upon the form of its channel, its volume, and the inclination of its bed.

7. **The Source** of a river is where it rises; its *mouth*, where it empties into the sea, or any other body of water. *Banks* are the sides of the river.

8. As you go down a river the bank on your right is called the *right bank*, the other the *left bank*.

9. **The Bed** of a river is the bottom, or that over which the water flows. The *channel* is made up of bed and banks.

10. **A Delta** is the land enclosed between the mouths of a river. It is so called from the shape of the Greek letter delta [Δ].

DELTA—HOW FORMED.

(1) Where a river flows through an alluvial region, much soil is washed away and carried by the river to its mouth, where it settles to

the bottom, forming shoals, islands, and the like. So long as the waters continue to flow the soil is carried in solution; but on nearing the ocean where there is little fall the waters become sluggish, and the sediment is strewn along the bottom; in this way many river beds become elevated so much that *banks* or *levees* must be built to keep the waters in the channel.

The surface of the Mississippi river is already much above the level of the surrounding country in the lower parts of its course.

The surface of the river Po, near its mouth, is higher than the tops of many houses. Sometimes these rivers break through their banks and do much damage to the surrounding country.

In the spring of 1874 the levees of the Mississippi gave way, when thirty-one parishes of Louisiana were submerged, and great loss of life and property followed.

(2) *All rivers have not deltas*; for when one river empties into another the motion of the waters is kept up and there is no deposit of sediment. Ocean currents flowing by the mouths of rivers take up their waters and distribute the soil over the bottom of the ocean. The incoming and outgoing tides also take away much of the drift carried down to the sea.

AREAS OF DELTAS.

(3) The *delta of the Nile* contains over 9,000 square miles, and the deltas of the Mississippi measure about 14,000 square miles. The latter is said to carry sediment to its mouth sufficient to cover one square mile each year, 268 feet deep.

11. Usually the surface of a river is but a few feet below the level of the surrounding country; but in a number of instances the rivers have narrow, deep channels, many hundreds of feet in depth—these are called *canons*.

The *canon* of the Colorado, of Arizona, is the most remarkable in the world. The surface of its waters is from 2,000 to 6,000 feet below the level of the country.

12. A *water-shed* is the elevation or ridge of land separating two river basins. From this point streams flow in different directions.

13. Sometimes two river systems so run into each other that a natural communication of water exists between them. A stream joining two such river systems is called a *continuous river*.

The Casiquiare river, of South America, joining the Orinoco and Rio Negro rivers, is a familiar example.

14. That part of a river which passes rapidly over rocky obstructions is called *rapids*. A fall of one foot or more, in the course of two hundred feet, produces rapids.

Where the body of a river pitches over a precipice, it is called a *cataract*, *fall*, or *cascade*.

CATARACTS.

15. *Cataracts* are found in all quarters of the globe, and are everywhere regarded as phenomena of rare beauty and sublimity. Some

are noted for their height, others for their volume of water; but they are most interesting where both these characteristics are combined.

CAUSE OF FORMATION.

(1) In the channels of rivers some rocks are harder than others; the softer ones will wear away most rapidly, thus forming the head of *water-falls*, and as the falls become higher the erosive power of the water increases. This continues until stopped by some harder obstruction below.

Among the most remarkable cataracts known may be mentioned the Niagara Falls, 162 feet high; the Genesee Falls, of New York, 96 feet high; the Yosemite Falls, of California, 1,300 feet high; the Falls of Shaffhausen, 100 feet high; and the Victoria Falls of the Zambeze river, 400 feet high.

16. **A Firth or Estuary** is the open or wide mouth of a river, affected by the rising and falling tides.

17. **A Canal** is an artificial ditch filled with water, for the passage of boats.

18. All the rivers draining one slope of the country and flowing into the same body of water, is called a *drainage system*.

CHAPTER XV.

LAKES.

1. **A Lake** is a body of water surrounded by land, but smaller than a sea.

2. Lakes are both salt and fresh. Lake Superior is the largest fresh water lake; and the Great Salt Lake, of Utah, is the largest body of salt water which is really a lake.

3. There are four classes of lakes.

First—Those which have both inlets and outlets.

Visible inlets and outlets are meant, as all lakes have inlets and outlets, but not necessarily visible.

Second—Those which have outlets but no inlets. Both these are fresh water lakes.

The great lakes of North America are examples of the first class, and Lake Sirikol, the highest lake in the world, and source of the Amoo river, situated on Pamir Plateau, is an example of the second class.

4. Lakes of the third class are those having inlets but no outlets.

5. Lakes of the fourth class are those having neither inlets nor outlets.

The numerous lakes of the Great Interior Basin are examples of the third class, and Lake Tulza is an example of the fourth class. It is situated in Asia Minor, in the Taurus mountains, and is about thirty miles long and one-half mile wide. Lakes of this class, as well as those of the second class, are fed by melting snows of mountains, and submarine springs.

6. Uses of lakes.

(1) It is a noteworthy fact that comparatively few lakes exist within the tropics; but they become numerous near the poles, where they serve the double purpose of mitigating the rigor of the climate and affording valuable fish as food.

(2) They are also vast reservoirs of the surplus waters of melting snow, etc., and so prevent disastrous floods.

(3) Lastly, the beauty and charm which they add to the earth must not be overlooked in searching out their uses.

CHAPTER XVI.

SPRINGS.

1. **A Spring** is water issuing spontaneously from the earth, and may be divided into numerous classes.

ORIGIN.

2. The waters on the surface of the earth soak through the soil until they reach an impervious stratum; they run along on this till they emerge on some lower level where the stratum crops out.

(1) The waters gathering in subterranean caverns or reservoirs may be forced through openings to the surface of the earth by compressed gas or highly heated steam, or by the pressure of some connected body of water.

3. The solid part of the earth beneath the surface is ramified by numerous streams of water, flowing in all directions, like the arteries and veins of the human body. If any of these streams should come in contact with any heated portion of the earth's crust, much of the water is converted into steam, and by its expansive force drives the water through channels with much violence, so that vast columns of water are sometimes thrown many feet above the surface of the earth, and are called *geysers*. Where this phenomenon is manifest in a less degree, *warm* or *thermal springs* result. If the temperature is not above 60° it is called a *cold spring*.

4. Constant springs flow continually, with little or no diminution of flow during droughts. Periodic springs flow during one season of the year and are dry the rest of the year. If the spring has its origin in a subterranean reservoir whose outlet is a siphon, the spring becomes periodic, the ebb and flow of its waters occurring at regular intervals.

5. In many parts of the earth the crust contains mineral substances which are dissolved by the waters passing through its various strata, and when these waters appear on the surface they are called mineral springs.

(1) **Calcareous Springs** are those containing lime.

(2) **Silicious Springs** are those containing silica.

(3) **Sulphur Springs** are those containing sulphureted hydrogen, and the like.

(4) **Acidulous Springs** are those containing large quantities of carbonic acid.

(5) **Chalybeate Springs** are those containing iron.

(6) **Petroleum Springs** are those containing rock or coal oil.

In this way springs are named from the minerals with which their waters are impregnated.

(7) **Artesian Wells**, so named from Artesia, a district of France, where the first well of this kind was sunk, are made by artificial borings through the crust of the earth, until a reservoir of water is reached whose source is higher than the surface at the point of boring. The water is made to rise through the opening to the surface of the earth, and is often thrown in a continuous jet with considerable force.

CHAPTER XVII.

METEOROLOGY.

1. **Meteorology** is a description of the atmosphere and its phenomena.

2. **Atmosphere**, the third grand division of the globe, is the elastic gaseous substance which envelops the earth to a height of about fifty miles.

3. The air becomes less dense as the distance from the earth increases. At the sea-level the pressure is about fifteen pounds to the square inch. The barometer falls one inch in 1,000 feet, in the first 10,000 feet of ascent; and two-thirds of an inch per thousand feet during the next 10,000 feet.

Isobars (or isobarometric lines) are lines joining places on the earth's surface, having the same height of barometer.

4. The air is composed of two invisible gases, viz.: nitrogen and oxygen, in volume about seventy-nine parts of the former to twenty-one parts of the latter.

Wind is air in motion.

VELOCITY OF WINDS.

5. The following table, partly from Smeaton, will be found useful.

Velocity of wind in miles per hour.	Force of winds to the square foot in avoirdupois pounds.	Common names of winds.
1		Hardly perceptible breeze.
4 to 5	.08 to .123	Gentle wind.
10 to 15	.492 to 1.1	Pleasant, brisk gale.
20 to 25	1.96 to 3.07	Very brisk.
30 to 35	4.42 to 6.02	High wind.
40	7.87	Very high.
50	12.3	Storm.
60	17.71	Great storm.
80	31.49	Hurricane.
100	49.2	Violent hurricane.

6. When the winds have a rotary as well as a progressive motion they are called *whirlwinds* or *tornadoes*.

A Cyclone differs from the preceding only in its larger area.

7. Cyclones are the most dreaded of all storms, but tornadoes are nearly as destructive as cyclones. When a hurricane occurs on the water it causes a *water-spout*.

CAUSES OF WINDS.

8. When any portion of the earth becomes heated more than the adjoining districts, the air over the heated area expands, and the cooler air being heavier comes in to push the heated air up, which in turn flows back over the cooler regions.

(1) Winds are turned out of their courses by opposing mountains, and lesser elevations, also by conflicting currents of air.

(2) If the earth's surface were perfectly flat the winds from the equator, owing to the rotation of the earth, would take north-easterly and south-easterly courses; and the winds from the polar regions would blow south-west from the north pole, and north-west from the south pole.

EXPLANATION.—The equator has a velocity of about 1,000 miles per hour, and the velocity of any spot diminishes as we go north or south of the equator, until we reach the poles, where the rotary velocity is zero.

The atmosphere at the equator has the velocity of the equator, and in going north the winds are continually coming into regions having a less velocity than themselves; and hence, since the air moves faster east than the earth, the winds are made to take a course between north and east, or north-east. In like manner the winds from the equator moving south take a south-easterly course.

(3) If the earth did not rotate on its axis the warm winds from the equator would blow due north and south; also, the winds from the polar regions would blow due south from the north pole, and due north from the south pole.

The winds coming from the polar regions are continually coming into regions having a greater velocity eastward than themselves, and hence are made to lag behind; that is, the earth slips through under them, giving them a relatively westerly direction. Suppose the winds blow east twenty miles per hour, and you are riding on a railway train moving thirty miles per hour in the same direction, the winds will seem to blow west at the rate of ten miles per hour. The earth may be represented by the train, and the velocity of the train being greater than the winds, causes the winds to seem to blow west; so the velocity of the solid part of the earth being greater than the incumbent air, makes the winds to blow westerly.

The subject of winds, when followed out in detail, is too complicated to be fully discussed in an elementary text-book. We will, therefore, conclude by defining, or describing, some of the principal winds.

CHAPTER XVIII.

CLASSIFICATION OF WINDS.

Winds may be classified as follows:

Winds,	1. Constant—Trade winds.		
	2. Periodical,	1. Monsoons.	4. Northers.
		2. Sea breezes.	5. Harmattan.
		3. Etesian.	6. Typhoons.
	3. Variable,	1. Simoons.	4. Mistral.
		2. Sirocco.	5. Bora.
		3. Pamperas.	

1. **Trade Winds** are formed within the tropics, and blow in one direction (westerly) throughout the year.

(1) They are so called because they assist in navigation; a vessel on the sea can have its speed quickened by getting into a trade wind blowing in the same direction.

(2) The north-east trades lie between the 30th and 8th degrees north latitude, and the south-east trades lie between the 3d north latitude and 28th south latitude.

(3) Their velocities are from ten to twenty miles an hour. Between these two trades lie the *zones of calms*, caused by the vast volumes of heated air continually rising. The air is mostly in dead repose.

(4) About the tropics there are two other calm belts, caused by the equatorial winds descending and meeting the polar winds. The calms of the tropic of Cancer are called *Horse Latitudes*, from the fact that formerly vessels loaded with horses for the West Indies were often delayed in these calms, and the sailors were obliged to throw over-board a part of their cargo to save the rest from the want of food and water.

PERIODICAL WINDS.

2. Periodical winds are those which occur at regular intervals of time and continue for a definite season.

(1) **Monsoons** are winds which blow one-half year in one direction and during the remaining half in the opposite direction. From October to April the north-west monsoon prevails in the southern hemisphere, and the north-east in the northern. From April to October they blow in opposite directions.

(2) **Land Breezes** are winds from the land blowing over the sea; *sea breezes* are winds from the sea blowing over the land.

During the day the land becomes heated much more than the water, and, because of the hot air over the land rising, a breeze sets in from the sea, usually about 9 o'clock in the morning, and continues until sunset. Since the water is a poor conductor of heat the land cools much more rapidly than the water, so that early in the evening the

land has become cooler than the sea, when the warmer air of the sea is crowded out by the cooler breeze from the land.

Between these winds there is a season of calm.

(3) **Etesian Winds** are north-east winds, experienced in some countries on the Mediterranean; they blow for nearly six weeks.

(4) **The Northers** are the cold, boisterous winds blowing over the plains of Mexico and Texas, from October to March, but seldom continuing for more than four or five days at a time.

(5) **The Harmattan** is found in Guinea and Senegambia, and blows from December to March, in four different intervals of about fifteen days each. It is an exceedingly hot and dry wind, and the sky is so hazed that the sun appears like a ball of fire.

(6) **Typhoons** are the desolating storms which occur on the Pacific ocean, China sea, and Northern Indian ocean.

VARIABLE WINDS.

3. North and south of the trades are the zones of *variable* winds; that is, as the name indicates, winds which blow in any direction.

(1) **Simoons** are the hot, parching winds from the desert of Sahara.

(2) **The Sirocco** is a south-east wind which occurs in Sicily and Italy during the summer. They come from the Great Desert over the Mediterranean, are humid and hot, and exceedingly oppressive.

(3) **The Pamperas** are the cold north-west winds from the Andes, which sweep over the dry pampas of South America. So great is their violence that often great clouds of dust are raised which produce a darkness like night, and the water of the La Platta rolls in billows like the sea.

(4) **The Mistral** is a cold north-west wind sweeping down from the mountains in central France over its south-eastern regions.

(5) **The Bora** is a cold north-east wind from the Alps.

USES OF WINDS.

1st—They purify the atmosphere.

2d—They distribute the heat and cold over the earth, else many parts would become intolerable because of the excessive heat and cold.

3d—They distribute the rains.

4th—They carry seeds to distant countries and islands, and thus have been the means of clothing many portions of the earth with a rich garb of vegetation.

5th—They assist in navigation by driving ships across the seas and other large bodies of water. It has been beautifully said, "By their aid the rich products of different climes are interchanged, mankind are bound together by social and commercial ties, and religion and civilization are extended to the remotest regions of the earth,"—

Brocklesby.

6th—It is true that winds sometimes, in the way of storms, do a great deal of damage; but they bring so many blessings and so many comforts that we could ill afford to do without them. We are glad to suffer slight damages occasionally, if we may only enjoy the thousands of benefits they confer.

CHAPTER XIX.

TEMPERATURE.

1. **The Temperature** of any thing is the degree of heat it possesses, and is measured by an instrument called a *thermometer*.

2. The *mean daily temperature* is found by taking the temperature of each hour and dividing this sum by 24. The *mean yearly temperature* is found by taking the daily temperatures for a year and dividing their sum by 365.

3. **The Climate** of a place is the condition of the atmosphere as to winds, moisture, and temperature; or, in other words, climate is the *weather* conditions of a country.

4. The climate of a place depends upon its latitude, altitude, proximity to the sea, position and direction of mountain ranges, direction of prevailing winds, ocean currents, cultivation of the soil, etc.

For every 330 feet in ascent, there is an average diminution of 1° in temperature.

(1) **The Astronomical Climate** of a place is the climate resulting from conditions depending on its latitude.

(2) The astronomical climate modified by other conditions is called *physical climate*.

(3) **A Continental Climate** is characterized by great extremes and sudden changes of temperature, and prevails in large land areas; as in the interior of Asia, North America, etc.

(4) **An Oceanic Climate** is the opposite of the preceding; there is great uniformity in daily temperature, and but comparatively little difference between the summer and winter temperatures. It prevails on islands and along the coasts of continents.

5. **Climatic Circles** are lines connecting places having the same average temperature.

(1) **Isothermal Lines** connect places having the same average annual temperature.

(2) **Isocheimal Lines** connect places having the same average winter temperature.

(3) **Isotherel Lines** connect places having the same average summer temperature.

6. From the preceding it will be observed that *climate does not vary* as latitude varies, owing to other modifying conditions. It is frequently the case that north of a chain of mountains the climate is warmer than immediately south of it.

7. The *hottest part of the globe* surrounds the Red sea, whose mean annual temperature is 90° Fahr. The coldest places are in north-eastern Siberia, and Melville island, of North America. The latter has a mean temperature of 3° below zero; the former 1° above zero.

8. The climate of the north temperate zone is warmer than the south temperate, owing to a greater amount of land in the north; for the same reason the *isothermal equator*, or line of greatest heat, lies north of the equator.

9. The *hottest time of the year* is *not* when the longest day occurs, but about the latter part of July and first of August.

While the days are longer than the nights, the earth receives more heat during the day than it loses during the night; there is then an accumulation of heat which does not cease (in our latitude) until about the middle of August. From this time the earth radiates more heat during the night than it receives during the day, and continues to grow cold until about the middle or latter part of February.

10. The *hottest time of day* is not at noon, but from one to two o'clock P. M. It is warmer at 9 o'clock P. M. than at 3 A. M., because the earth, having become heated during the day, continues to lose heat during the night.

So long as the earth receives heat faster than it radiates it, it continues to grow warmer.

11. The climate grows colder as we go from the equator toward the poles.



A A A—The earth's atmosphere. B B B
—The sun's rays.

(1) The sun's rays must pass through a greater thickness of atmosphere near the poles than at the equator. About twenty-eight per cent. of the sun's heat is lost in passing perpendicularly through the atmosphere, and, of course, much more will be lost in passing through the atmosphere nearer the poles.

(2) Owing to the round shape of the earth fewer rays fall on any given area near the poles than at the equator; hence, less heat.

(3) North and south of the equator the sun's rays strike the earth obliquely, and since the angle of reflection is equal to the angle of incidence, the rays glance off again into space, depriving the earth of much heat which it would otherwise receive; whereas, in the equatorial regions, where the rays of the sun fall perpendicularly, they are reflected back into the atmosphere in the same line, and so help much in this way to heat these regions.

12. **Climatic Zones or Physical Zones** are divisions of the earth's surface bounded by isothermal lines. There are five of these zones: the torrid lies between the isothermals, 70° north and 70° south; the temperate zones lie between the isothermals, 70° and 32° ; the frigid zones lie, the one north and the other south of the isothermal, 32° .

CHAPTER XX.

MOISTURE OF THE ATMOSPHERE.

1. The atmosphere always contains some moisture in an invisible state. A vessel of water exposed to the air soon evaporates, and its waters are held by the air.

2. The air expands as its heat increases, and its capacity for moisture increases with its heat. When, at any given temperature, the air has all the moisture it can hold in an invisible state, it is said to be *saturated*. This is also called the *dew point*. Whenever saturated air is made cooler, dews, fogs, mists, and rains result.

3. The *quantity of moisture* necessary to saturate the air varies with the temperature. Cold air requires much less moisture to saturate it than warm air. Warm air, when not saturated, may be brought to the dew point by cooling.

DEW.

4. **Dew** is the moisture which gathers upon vegetation and many other objects during the clear summer nights.

(1) During the day the earth and superincumbent air become heated by the sun's rays; but during the evening and night the earth loses its heat so rapidly by radiation, that it soon reduces the temperature of the air resting upon it to the dew point and below it. When the temperature of the atmosphere is brought below the dew point, it can no longer hold all its moisture, and a portion gathers on the objects with which it is in contact.

(2) A cloudy night is not favorable for the deposition of dew, as the clouds resist the radiation of heat which is necessary to bring the temperature below the dew point.

(3) No dew is found on the under side of leaves, for they receive the heat radiated from the earth.

(4) The most copious dews fall not during a very calm night, but when the air stirs slightly. The same air resting upon an object would soon be drained of its surplus moisture.

(5) No dew falls on very windy nights.

(6) In the tropics, during their cloudless nights, the dew is so copious that it resembles gentle rains, and the water is made to run in streams.

CLOUDS.

5. Whenever the temperature of a large mass of air is reduced below the dew point the moisture begins to collect in minute drops, which become visible; it is called *fog* if it rests or floats upon the surface of the earth; if it floats in the higher regions of the atmosphere it is called *clouds*.

6. The following are the principal varieties of clouds:

(1) **The Cirrus** is a feathery, fleecy cloud, which floats in the regions of perpetual frost. It is supposed to be composed entirely of snow-flakes.

(2) **The Cumuli** are the heavy massive clouds, which look like snowy mountains. They are the prevailing clouds of our summer days, and are formed by uprising, heated currents of air. Their base marks the height where the dew point is reached.

(3) **The Stratus** is a winter cloud, though also common at other seasons, and is generally low. It is arranged in long, horizontal bands, and is formed low in the atmosphere.

(4) **The Nimbus** is the rain-cloud. It is noted for its ragged outline; at first it is a dark leaden color, gradually changing into gray.

(5) There are also other varieties of clouds, mixtures of the foregoing, such as the *cirro-cumulus*, *cirro-stratus*, *cumulus-stratus*.

(6) The height of clouds varies, on an average, from 1,300 feet to about five miles.

USES OF CLOUDS.

The use of the nimbus or rain-cloud is apparent; but it may be asked, of what use are clouds that do not bring rain?

1st—They protect the earth from too much heat in summer and from excessive cold in winter. During the summer they cut off the burning rays of the sun, and in winter they act as a covering to the earth, and thus prevent the too rapid radiation of heat.

2d—If you will watch the fleecy clouds during the summer days, you will observe that clouds are formed in one part of the sky and melt away in another, reform and dissolve again. In all these changes heat is given off or absorbed. When a cloud is dissipated by the heat of the sun, heat is abstracted from the surrounding air, and a cooler current descends toward the earth; and when a cloud is forming in another part of the heavens, heat is set free and the air arises. In this way vertical currents of air are produced and the temperature equalized.

3d—In searching out the uses of clouds, the beauty which they add to the sky must not be overlooked. The constantly varying changes of the sky fills our minds with thoughts of the beautiful. A sky forever without clouds would certainly become monotonous. The exquisitely beautiful colors of clouds at sunrise and sunset have always been objects of profound interest and admiration to all persons.

RAIN, ETC.

When the temperature of saturated air is reduced very rapidly, rain falls from the clouds. Very small drops of water, by a slower cooling, form mist.

Perhaps cooling and compression by other bodies of air cause rain, much as water is pressed out of a sponge. It is possible that scientists have not yet arrived at the true cause of rain.

AMOUNT OF RAIN-FALL.

7. It is estimated that the annual rain-fall in the torrid zone is 8.5 feet, in the temperate zone 3.03 feet, and in the frigid zone 1.25 feet. This amount would cover the earth, on an average, to a depth of about five feet, and would make a lake 24,000 miles long, 3,000 miles wide, and sixteen feet deep.

The greatest annual rain-fall occurs at the southern base of the Himalaya mountains in India; about 610 inches.

At San Luis de Maranhao 280 inches fall annually.

Amount of annual rain-fall in the Old World, 77 inches.

Amount of annual rain-fall in the New World, 115 inches.

Amount of annual rain-fall in the United States, 39 inches.

Amount of annual rain-fall in Europe, between 36° and 60° , is 34 inches.

8. If the dew in forming should freeze, it is called *frost*.

If, in the process of rain formation in the upper regions, the drops should freeze into many-sided crystals or flakes, and thus fall to the earth, we call it snow. The small drops of frozen water pop out into snow-flakes, like the popping of corn.

9. The *snow line* is the height where snow ceases to melt. The tops of very high mountains are always covered with snow. The snow line is about 16,000 feet above the sea-level at the equator, and slopes north and south toward the poles, where it reaches the surface of the earth. In our latitude it reaches a height of 10,000 feet.

10. **Hail** is produced when there is great difference in temperature between lower and upper strata of air.

The cause of hail is perhaps not yet fully understood; several theories have been advanced to account for these wonderful occurrences. If you examine a hail-stone you will find it composed of concentric layers similar to those of an onion, arranged around a central nucleus of ice or snow, generally the latter. The rotary theory, which is the most generally accepted, explains this as follows: The wind is supposed to rotate in a cyclone, only the axis is horizontal to the surface of the earth. Two currents of air—one cold, and the other warm and humid, the warm strata being below—meet and produce this rotary motion. A snow-flake being formed is carried down into the moist, warm air, where it receives a layer of moisture, and then back into the cold, when it is frozen. This process alternates in cold, and in warm, moist air, until layer after layer being added, it becomes too heavy to be held or carried by the rotating air, and is then thrown to the earth.

11. **Glaciers** are immense masses of ice and snow which move slowly down the valleys and gorges of mountains. The upper part is formed of soft snow, the lower part of clear ice.

It is formed by the freezing and thawing of snow. Its motion is produced by the immense weight of snow and ice in its upper course, and by the alternate thawing and freezing. In the polar regions these glaciers shove out from land into the ocean, and under their excessive weight break off, plunge into the water, float in the ocean, and are called icebergs.

12. **An Avalanche** is a great mass of snow sliding down the mountain side, often carrying ruin and devastation in its course. It is sometimes called the "*Thunderbolt of Snow*."

CHAPTER XXI.

OPTICAL AND LUMINOUS PHENOMENA.

1.—**The Rainbow** is an arch composed of seven prismatic colors, viz.: red, orange, yellow, green, blue, indigo, and violet. The rainbow is to be seen only when the rain is falling and the sun is shining.

It is formed by the rays of the sun passing through the drops of water, when they are dissolved into their prismatic colors. Each color is reflected at a different angle; hence the arch of the rainbow and its distinct colors.

2.—**Twilight** is the faint light seen after sunset and before sunrise. The former is called the *evening twilight*, and the latter the *dawn*.

CAUSE OF TWILIGHT.

(1) The cause of twilight is the reflection of the sun's rays by the atmosphere. The same power of reflection possessed by the atmosphere causes it to be light in our recitation rooms on the shady side of the house, and on cloudy days.

REMARKS.—If the atmosphere did not possess the property of reflection, day would come upon us like a flash of lightning, and would leave us as instantly; our own shadows would be in our way, for we could not see through them. Every spot where the direct rays of the sun did not reach would be dark as the deepest dungeon; every shadow would be a dark partition through which we could not see. Our eyes could not endure the sudden changes forced upon them. In fact, the earth would be almost anything but agreeable. We see here, as everywhere, design wrought out in the mind of the infinite, and that the all-wise and ever kind creator has done everything for our comfort and happiness. In grateful homage due him, let us praise him for his excellent works.

3.—**Mirage** is a name given to that optical phenomenon by which objects are seen above and below their true position. It is common on the Sahara.

4.—**The Aurora Borealis** is a luminous phenomenon of electric origin, seen in the northern skies. In Iceland and other northern countries it is an object of rare beauty.

5.—**St. Elmo's Fire** is the pale light, sometimes attended by hissing noises, seen at the tips of objects during a highly electrified condition of the atmosphere.

6.—**Lightning** is a discharge of atmospheric electricity, accompanied by a vivid flash of light.

7.—**Thunder** is the noise made by the electricity in passing through the air. The lightning-flash in passing through the air produces a sudden and powerful displacement of the particles of air, and the collapse is said to give the report called thunder.

CHAPTER XXII.

THE THREE KINGDOMS OF NATURE.

1. The unorganized portion of the earth belongs to the mineral kingdom. This furnishes sustenance to vegetables, and vegetables are the chief nutriment of animals.

2. Among the mineral treasures of the earth, coal is the most important. Next to that are the various metals, iron, lead, tin, copper, zinc, nickel, gold, and silver. The last two are called *precious* metals, in distinction from the others, which are called *useful* metals.

3. There are four principal classes of minerals: the metallic, the inflammable, precious stones, and building stones. We have named the metallic.

—The most important *inflammable* minerals are coal, sulphur, bitumen, asphaltum.

—The most important *precious* stones are diamonds, sapphires, rubies, emeralds, topaz, etc.

—Some of the principal *building* stones are granite, limestone, marble, and sandstone.

VEGETATION.

4. The empire of vegetation embraces the whole globe from pole to pole, and from the summit of mountains, where the lichen creeps over the hardest rocks, to the bottom of the ocean, where floating fields of plants rise unseen. Cold and heat, light and shade, fertile land and pathless desert—every place, every temperature, has its own kind of vegetation, which thrives and prospers there. There are plants which ramify upon the dark vaults of mines, and upon the walls of deepest caverns.

The forms of vegetable life are comprised under two great divisions: flowering plants (*phanerogamia*) and flowerless plants (*cryptogamia*). The former are divided into exogens—that is, those whose stems grow by additions to the outside, as the oak, chestnut, etc., where each year's growth is marked by rings—and endogens, whose stems grow by additions from within, as the palm, sugar-cane, and the grasses.

Vegetation may be further classified, according to its uses, as follows:

(1) **Plants Yielding Food**—Rice, bananas, plantain, yams, palms, breadfruit, fig, manioc, wheat, barley, rye, oats, Indian corn, buckwheat, and potatoes.

(2) **Plants Yielding Sugar**—Sugar-cane, sugar-maple, beet and date-palm.

(3) **Plants Yielding Beverages by Infusion**—Coffee, tea, cacao.

(4) **Plants Yielding Spices**—Pepper, nutmegs, cloves, and cinnamon.

- (5) **Plants Yielding Oils, Resins, Gums**—Cocoanut, linseed, hemp, cotton, and olive; gum arabic, caoutchouc, gum copal, and fir.
- (6) **Plants Furnishing Dyes**—Indigo, wood, logwood, fustic, madder, Brazil-wood, and orchilla.
- (7) **Plants Furnishing Clothing**—Cotton, hemp, and flax.
- (8) **Plants Furnishing Building Timber**—Pine, oak, chestnut, poplar, ash, bamboo, mahogany, rosewood, and walnut.
- (9) **Medical Plants**—Peruvian bark, rhubarb, opium, aloes, etc.
- (10) **Narcotics**—Tobacco, opium, hemp, coca, and the beetle-nut.

ZONES OF VEGETATION.

Vegetation depends on sunlight, warmth, and moisture for its development.

In the warm regions of the world the growth of plants is rich and varied, while in the cold regions it is scanty and stunted. Accordingly, great changes in plant life take place in passing from the equator to the polar regions, and the earth may be divided into zones of vegetation whose limits are well defined.

Six zones are recognized, as follows:

- (1) **The North Polar Zone**, whose annual temperature is less than 5° Fahrenheit. Lichens grow here.
- (2) **The Arctic Zone**, whose mean annual temperature varies from 5° to 30°. It is the home of mosses and stunted trees.
- (3) **The Cold Temperate Zone**, lying between the isothermals 30° and 40°. Cone-bearing trees, pine, spruce and fir, willow, birch, flax, rye, barley, oats, turnips, and potatoes, flourish here.
- (4) **The Temperate Zone**, lying between the isothermals 40° and 60°, which is characterized by heavy forests, herbaceous vegetation, with grass, hemp, tobacco, and cereals.
- (5) **The Warm Temperate Zone**, extending from 60° to 70° Fahr., which contains evergreens, the fig, orange, lemon, almond, peach, pomegranate, cotton, olive, mulberry, tea, rice, and millet.
- (6) **The Tropical Zone**, which varies in temperature from 72° to 82° Fahr. Tropical vegetation is its characteristic.
- (7) The vegetable life of any country is called its flora.

ANIMALS.

5. The animal kingdom presents a vast and varied field. Every department of nature—the earth, air, and sea—is full of animated beings; some of them seemingly nearly allied to vegetables and minerals. From these we may ascend in the scale through an almost infinite series of existences, up to man, who constitutes the highest in the animal kingdom.

The animal life of any region is called its fauna.

CLASSIFICATION OF ANIMALS.

The animal kingdom is divided by naturalists into branches, classes, orders, families, genera, and species. There are about 250,000 known species of animals; some authorities make this number much larger.

The animal world is much more rich and varied than the vegetable world, and is divided into four branches, namely: mollusks, radiates, articulates.

The Mollusks include 10,000 species, and comprise those animals of soft texture, without skeleton, but capable of forming a shelly covering, such as the snail, oyster, clam, etc.

Radiates have the parts arranged around a center, so as to radiate from it like the spokes of a wheel. To this branch belong the star-fish, sea-urchin, crinoids, etc.

Articulates comprise those animals whose bodies are composed of joints and rings, as the lobster, crab, shrimp, etc., butterflies, beetles, scorpions, centipedes, bees, flies, etc.

Vertebrates have jointed backbones, and are divided into five classes: fishes, batrachians, reptiles, birds, and mammalia.

Fishes, the lowest of the vertebrates, are cold-blooded, and breathe by gills.

Batrachians are cold-blooded animals, such as frogs, salamanders, etc.

Reptiles are also cold-blooded, and include saurians—crocodiles, lizards, etc.; chelonians—turtles and tortoises; ophidians—all kinds of snakes.

Birds are divided into seven orders: birds of prey, perchers, climbers, scratchers, runners, waders, and swimmers.

The Mammalia includes 2,000 living species, divided into twelve orders, the last and highest being man, but space forbids giving further descriptions of them.

CHAPTER XXIII.

MAN.

1. The various races of men may be reduced to five principal races or types. These all differ from each other in color, form and feature.

2. The distinction of the different races is, probably, owing to difference of climate, food, manner of living, and, no doubt, to causes we do not fully understand.

3. The five varieties of the race are the Caucasian, the Mongolian, the African, the Malay, and the American.

THE CAUCASIAN RACE.

4. The Caucasian is so called because Blumenbach's best specimen skull was obtained near the Caucasus mountains; it is also

called Indo-European, from its diffusion from India over Europe.

(1) *Physical Characteristics*:—The Caucasian race is distinguished for a white skin, varying to swarthy, a ruddy complexion, soft, flowing hair, oval face, narrow nose, small mouth, and for round and well-proportioned limbs. He is the tallest of the five races of men, and has always been foremost in intelligence, the arts, and in all the intellectual pursuits. The principal nations of ancient and modern times have been of this race.

(2) The principal nations embraced under this class are the Europeans and their American descendants, the Arabs, Moors, Turks, Hindoos, and Abyssinians; whole number about 600,000,000.

THE MONGOLIAN RACE.

—The Mongolian Race includes all the nations of Asia east of the Ganges, excepting Malacca. It embraces, also, the Laplanders and Fins in Europe, and the Esquimaux of America, from Behring's strait to Greenland.

(1) It is distinguished for a yellow skin, thin, coarse, and straight hair, broad and flat face, square head, low forehead, high cheek bones, small and obliquely set eyes, thick lips, and scanty beard.

(2) On the whole, the Mongolians are inferior to the white race in intellectual endowments, and are lower in stature and feebler of body than the other races. They are ingenious and inventive in detail, but lack the ability to generalize. They number about 590,000,000.

THE AFRICAN RACE.

6. The third race is the African or Negro, which is spread over all Western and Southern Africa. It is found also upon the coasts of Madagascar, and occupies New Guinea, New Caledonia, and includes the natives of Australia, and negroes of America.

(1) The physical characteristics are black skin, black, woolly hair, low forehead, high cheek bones, thick lips, broad, flat nose, projecting jaw, and curved shin.

(2) They have thus far evinced less mental activity and intellectual capacity than the preceding races, though a few have risen to a considerable eminence. In their native state they are indolent, and sluggish in their natures, and brutal in their manners. Their number is about 185,000,000.

THE MALAY RACE.

7. The Malay Race possesses many of the features of the first two mentioned races; a high and round head, brown color, hair black and straight, short and robust in stature, the men being on an average five feet two inches in height, broad face, and high cheek bones.

This race inhabits Malay peninsula, the East India islands, Polynesia, and New Zealand. It numbers nearly 55,000,000.

THE AMERICAN RACE.

8. **The American Race** consists of the aboriginal inhabitants of America, and is distinguished for its reddish or copper color, high cheek bones, erect form, coarse, straight, and black hair, small, black, and deep set eyes, aquiline nose, low and retreating forehead.

The American Indians are savage and revengeful in their dispositions, fond of war and hunting. They are capable of noble and generous feeling, but are cruel and revengeful toward their enemies, and exhibit a wonderful endurance of pain and suffering. They are rapidly disappearing, as the white man, with his superior intelligence, encroaches upon their domain. They number, perhaps, 11,000,000 souls.

CHAPTER XXIV.

THE CAUCASIAN RACE.

1. This race is divided into three great branches: the Hamitic, Semitic, and Japhetic or Aryan.

2. **The Hamitic**, also called the North African branch, includes the Fellahs of Egypt, the Berbers of North Africa, and some of the inhabitants of Soudan. The people of this branch have mostly disappeared, or have become blended with the Semitic and Japhetic so as scarcely to be distinguished.

3. **The Semitic** branch includes the Jews, Arabs, and Syrians. The former are scattered through every country of the globe, as has been prophesied of them.

4. **The Japhetic or Aryan Branch** embraces six divisions, viz.: the Persian, Hindoo, Germanic, Slavonic, Romanic, and Celtic. The Germanic nations are those derived from the ancient Germans; the Romanic from the ancient Greeks and Romans; and the Celtic from the ancient Celts.

5. The Aryan branch is supposed anciently to have occupied the fertile valleys of the Hindoo Koosh mountains; that a portion of them emigrated westward. One division settled in Central Europe, from which descended the Germans, the Celts, and Slavonians; another division settled in Southern Europe, and gave birth to the ancient Greeks and Romans.

6. The following classification will indicate the principal divisions of the Caucasian race :

CAUCASIAN	1. HAMITIC	{ 1. Fellahs of Egypt. 2. Berbers of North Africa. 3. Some inhabitants of Soudan.	
	2. SEMITIC	{ 1. Jews. 2. Arabians. 3. Syrians.	
	3. ARYAN	1. Persians. 2. Hindoos. 3. Germanic	{ 1. English. 2. Germans. 3. Dutch. 4. Swedes. 5. Norwegians. 6. Danes.
		4. Romanic	{ 1. Modern Greeks. 2. French. 3. Italians. 4. Spanish. 5. Portuguese.
		5. Celtic	{ 1. Welsh. 2. Irish. 3. Scotch.
		6. Slavonic	{ 1. Russians. 2. Poles.

CHAPTER XXV.

PHYSICAL AND POLITICAL GEOGRAPHY COMPARED.

1. Geographical topics are frequently viewed under a division into Physical and Political.

2. In looking round upon the earth we notice that the mountains and valleys, the lakes, seas, and oceans are the works of God or nature. We observe that cities, roads, ships are made by men, united into political society. Geography is therefore divided into two parts—natural or physical geography, which describes the works of nature; and political geography, which describes the works and institutions of men in their social capacity.

3. **Physical Geography** describes the soil, climate, mountains, rivers, and seas of different countries.

Political Geography describes the people of various countries, their condition, and their works. It describes the government, religion, degree of civilization, modes of building, dress, and traveling; their roads, railroads, canals, towns, cities, villages; their trade and commerce; their manufactures, agriculture, and other industrial occupations.

4. The earth was created by God to be the abode of myriads of happy creatures, but more especially to be the theater upon which man is to prepare for a future and an immortal existence.

5. The various objects on the earth are divided by naturalists into three classes, or kingdoms: The Mineral, including the soils, rocks, waters, and all unorganized substances; the Vegetable, including trees, plants, and shrubs; and the Animal, including all beings which live, feel, and move.

6. **Vegetables** draw their substance from the mineral kingdom, and thus prepare food for animals. Man stands at the head of the animal creation, and freely makes use of all he finds on the earth, that may contribute to his happiness. This privilege is given him by his creator, and he enforces it by his superior skill and wisdom.

7. **Animals** are endowed with instincts, which guide them in the pursuit of happiness; but man must reach his maturity and perfection by means of education. Uneducated man is a savage.

8. A chicken will run about, and pick up seeds, when a day old; a duck will swim as soon as hatched; a calf or lamb will walk about and take its milk from its mother, without help or instruction, in twelve hours after birth.

9. But an infant is the most helpless of beings. It must be taught to eat, to drink, and to walk. Without education man grows up rude and cruel; with it, he may become an enlightened being, acquainted with many sciences, and familiar with his duty here on earth, and his high destiny hereafter.

POLITICAL GEOGRAPHY.

CHAPTER I.

STATES OF SOCIETY.

1. Mankind is found in various stages of civilization. Some live chiefly by hunting, fishing, and on the spontaneous productions of the ground; they have no knowledge of books, no schools, no well defined form of government, and are generally blood-thirsty, cruel, and revengeful in their disposition, and treat their women as slaves. This is called the savage state. The best examples of this class are the Indians of America, the aborigines of Australia, New Guinea, and many parts of Africa.

2. **The Barbarous State** is a state higher than the savage. The people of this class live by agriculture and the pasturage of cattle and sheep; they roam about from place to place in search of pasture for their flocks; they understand a few of the most simple arts, and have a very limited knowledge of reading and writing.

3. **The Half Civilized** nations obtain their living chiefly by agriculture, commerce, and some of the arts which they understand tolerably well. They have also established laws of religion, and some schools. China, Japan, Persia, and many other countries of Asia belong to this class.

4. **The Civilized State** is a decided improvement upon the half civilized. Here the principles of government are tolerably well understood; the people live in good houses, and have superior institutions for the diffusion of knowledge. The arts and sciences are much cultivated; there is, however, a great difference between the upper and lower classes of society. Among the nations of this class are Mexico, Spain, Portugal, Italy, Greece, etc.

5. **The Enlightened Nations** are noted for the intelligence, industry, and enterprise of their inhabitants; the arts and sciences are here carried to a high state of perfection; females are treated with politeness; the principles of free government are well understood, and education is more general than among other nations. The United States, Great Britain, Germany, France, and Switzerland are the best examples of this class.

CHAPTER II.

GOVERNMENT.

1. The surface of the earth is occupied by different nations, and these are found in very different conditions as to government; some adopting one kind, and some another.

2. **Government** is that system or power by which the laws of a country are made and executed.

The object of government is to afford protection to life and property, and to insure the happiness of the people.

3. Every government exercises three functions, viz.: the legislative, judiciary, and executive.

(1) **The Legislative Function** consists in framing laws.

(2) **The Judiciary Function** consists in applying the laws to individual cases. It is vested in our courts of justice.

(3) **The Executive Function** consists in enforcing the laws. This power in our country is given to the chief executive of the United States.

A government is prosperous just in proportion as these several functions are faithfully exercised. It matters not how large or how small the government, all these departments are applied. In the school-room the teacher exercises all these, the parent in his family, and so on.

4. There are three forms of government: monarchy, democracy, and aristocracy.

(1) **A Monarchy** is a government where the emperor or king rules during his life.

(2) If the government is limited by law it is called a limited or constitutional monarchy; like that of England.

(3) Where the monarch rules according to his own will, it is called an absolute monarchy; as in Russia, China, and Turkey.

(4) **An Aristocracy** is a government where the power is vested in the hands of a few persons called nobles. This form of government does not now exist alone, but is frequently combined with other forms of government.

In Great Britain the king or queen represents the monarchy; the nobles in the House of Lords represent the aristocracy; the House of Commons, the democracy.

5. **A Democracy** is a government in which the power is in the hands of the people at large.

In a pure democracy all the people meet together and make their laws. This form of government was common among the early colonies, but in course of time the population increased and was scattered over large areas so that it became impracticable to meet in a vast general assembly; besides, great confusion would follow in so vast a concourse of people. Different sections of the country then sent men whom they chose to represent them and their wishes in the colonial

legislatures; the government was then changed to a representative democracy, or republican form of government.

6. The first kind of government was the patriarchal, in which the father ruled his own family and servants.

The Bible records the names of many patriarchs, among whom were Abraham, Isaac, Jacob, Noah, etc. This kind of government still exists among the rude and barbarous tribes, the Bedouins of Arabia and the Great Desert, the Laplanders, and some others.

7. **An Empire** is a country governed by an emperor.

(1) Empires are generally composed of countries immediately joining each other, forming a compact body; as the empire of Germany; in other instances empires are composed of countries situated in different parts of the earth; as the British Empire.

(2) **A Kingdom** is a country usually governed by a king or queen; as Spain, Italy, etc. A kingdom differs from an empire in not being composed of separate and distinct states forming a whole.

Prussia is a kingdom; at the close of the late war with Austria, when many of the smaller states of the Germanic confederation were joined to her and consolidated, the confederacy became an empire.

8. **A Duchy** is a small division of a country governed by a duke; or, it is the dominion of a duke.

9. **A Principality** is a country which gives title to a prince. Prince Albert, heir to the throne of England, is Prince of Wales.

10. **A Despotism** is an absolute monarchy.

11. **An Oligarchy** is a government by a few.

12. **The Capital** of a country is the seat of government where the legislative bodies meet, and where the principal officers reside. A central position is usually chosen for a capital.

13. **Capitol** means the government building in which the legislative bodies meet; it also contains many offices, such as the treasurer's office, clerk's office, etc.

14. **A City** is a large collection of houses and inhabitants. Cities are usually incorporated with peculiar privileges in being governed by aldermen, mayor, etc.

15. **A Town** is smaller than a city and has fewer municipal privileges. A village is smaller than a town; many villages are incorporated, and are governed by mayor and council.

Cities are divided into different classes, and are endowed with privileges according to their rank.

Each state designates what shall be a city of the first-class, second class, etc., within its limits.

In Ohio a city of the first-class has 31,500 or more inhabitants; second-class, from 5,000 to 31,500.

Cities of the first-class are divided into three grades: first grade, more than 200,000; second grade, more than 90,000, and less than 200,000; third grade, more than 31,500, and less than 90,000.

Second-class cities are divided into four grades: first grade more than 30,500, and less than 31,500; second grade more than 20,000, and less than 30,500; third grade more than 10,000, and less than 20,000; fourth grade more than 5,000, and less than 10,000.

The great cities of the earth may be classed under three divisions: cities of the first-class containing 1,000,000 or more inhabitants; second-class, from 500,000 to 1,000,000; third-class, from 300,000 to 500,000.

16. **A Seaport** is a city or town situated on some harbor where vessels can load and unload their cargoes.

17. **A Port of Entrance** is a city or town with which foreign vessels are allowed by law to trade, and where duties are assessed and collected.

18. **A Metropolis** of a country is its chief city.

19. **A Colony** is a portion of a country settled by the citizens of another country, and remaining subject to the jurisdiction of the parent country while in a state of dependence.

CHAPTER III.

GOVERNMENT OF THE UNITED STATES.

1. The chief magistrate of the United States is called president. He is elected for a term of four years, by electors chosen by the people.

2. Each state has as many electors as it has members of congress; for example, Ohio has twenty-one (21) congressmen and two (2) senators, and is, therefore, entitled to twenty-three electors; the two electors corresponding to the two senators are called electors at large. The electors are chosen at the time of the presidential election, and constitute the electoral college. On the first Wednesday of December after the election, the electors of each state meet in their respective capitals, or in some designated place, and cast their votes for president of the United States, and also for vice-president; these results are forwarded, sealed, to the president of the United States Senate, who, upon the second Wednesday of February opens and reads these results in the presence of both houses of congress. A majority of the votes cast determines the election.

3. As has been observed, congress is composed of two branches, the lower house, or House of Representatives, and the upper house, or Senate.

4. The senators are elected to serve a period of six years. Each state is entitled to two senators, who are elected by the state legislatures of their respective states.

5. The president of the United States shall be at least thirty-five years of age; a senator thirty; a representative twenty-five.

6. The members of the lower house of congress are elected to serve a term of two years, and are elected by a direct ballot of the people. There is one congressman for every 152,000 inhabitants, and according to this apportionment there are in all 325 congressmen.

7. For the purpose and convenience of elections, each state is divided into congressional districts; a district often comprising many counties.

TERRITORIES.

8. The territories of the United States do not elect senators, but send one delegate each to the national legislature; these delegates can speak on all questions pertaining to their own territory, but cannot vote.

(1) The governors of the territories are appointed by the president. When a territory has a sufficient population it may be admitted to the Union as a state by a vote of congress.

(2) No fixed number of inhabitants is required, which will admit a territory into the Union, but the whole question of admission is at the discretion of congress.

9. The several states of the Union have forms of government modeled after that of the general government; they differ among each other only in matters of detail.

10. The president, after having entered upon the duties of his office, appoints, with the consent of the Senate, seven persons who are to become his legal assistants and advisers; these constitute his Cabinet. Each officer has charge of a special department of the government.

LIST OF CABINET OFFICERS.

Secretary of State.	Secretary of the Interior.
Secretary of the Treasury.	Postmaster General.
Secretary of War.	Attorney General.
Secretary of the Navy.	

11. These departments of the government are called bureaus of the president. There are also sub-divisions: the bureau of education, signifying that department of the government relating to education; etc.

12. The judiciary power of the United States is vested in a supreme court, nine circuit courts, and fifty-eight district courts.

CHAPTER IV.

GOVERNMENT OF OHIO.

1. Ohio, like the other states of the Union, has a government patterned after that of the general government; hence, is republican in form.

2. The officers of the state are governor, lieutenant-governor, secretary of state, treasurer, auditor, attorney general, commissioner of common schools, members of board of public works, judge of the supreme court, clerk of the supreme court.

3. Judges of the supreme court are elected for a term of five years; the auditor for four years; commissioner of common schools, clerk of the supreme court, and members of board of public works,

are elected to serve three years; all other state officers, for two years.

4. The legislature consists of a House of Representatives and a Senate; the members of both houses are elected for two years.

5. The county officers are treasurer, auditor, recorder, surveyor, sheriff, coroner, clerk of court, infirmary directors, commissioners, prosecuting attorney, probate judge.

6. The probate judge, clerk of the court of common pleas, county commissioner, surveyor, and auditor are elected triennially; the other county officers biennially.

7. All county and state officers are elected at the time of the fall election—the Tuesday next after the first Monday in November.

8. The township officers, except the justice of the peace, are elected annually, on the first Monday of April. The justice is elected triennially. The following are the township officers: trustees, treasurer, clerk, constable, board of education, and justice of the peace.

9. The state is divided by congress into townships six miles square, and the townships into sections of 640 acres each. The townships are numbered north and south, and the ranges east and west.

The following diagram will illustrate the numbering of sections:

NORTH.					
6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36
SOUTH.					

SALARIES OF STATE OFFICERS.

Governor	\$4,000	School Commissioner	\$2,000
Lieutenant-Governor	800	Insurance	2,000
Secretary of State	3,000	Railroad	2,000
Treasurer	3,000	Secretary Board of Agriculture	2,000
Auditor	3,000	State Librarian	1,500
Attorney General	2,000	Chief Justice	3,500
Adjutant	2,000	Clerk of Supreme Court	1,500

CHAPTER V.

RELIGIONS.

1. All nations have some religious notions, and few or none are without a belief in rewards and punishments, bestowed by an overruling Deity, or Providence. The importance attached to religion by mankind in all quarters of the globe is strikingly displayed in the number and costly edifices erected for this purpose.

2. The ideas of mankind are, however, much diversified as to the character of the Deity and the modes of doing him homage. The belief in Christianity prevails in Europe, and is embraced by about one-third of the human race.

3. Religion is the reverent worship which man pays to some deity, or divinity.

(1) Religion may be divided into two classes, true and false.

(2) **True Religion** consists in worshiping God according to his revealed will; *false religion* consists in worshiping idols, such as objects in nature, or the works of man's own hands.

(3) Religion may again be classed into four divisions: Christian, Mohammedan, Pagan, and Jewish.

4. **Christianity** consists in believing in Jesus Christ as the Saviour of the world.

(1) Christians are divided into Roman Catholics, Greeks and Protestants.

(2) **Roman Catholics** are those who believe in the Pope as the spiritual head of their church.

(3) **The Greek Christians** reject the Pope of Rome, but accept the Patriarch of Constantinople as the head of their church.

All these agree in the necessity of redemption through the Saviour.

5. **Protestants** are divided into various denominations; the Episcopalians, Methodists, Baptists, Presbyterians, Congregationalists, Universalists, Friends, Lutherans, are among the leading. These all agree on leading points of doctrine, but disagree on minor points.

6. **The Jews** are the descendants of the ancient inhabitants of Judea. They believe in the Old Testament, and maintain the ancient worship of their fathers, but reject the New Testament, and expect a Saviour yet to come. Their places of worship are called synagogues.

7. **The Mohammedans, or Musselmans**, are believers in Mohammed, an Arabian, who lived in the sixth century after Christ, and who pretended to bring a revelation from heaven, called the Koran. His creed was, "There is one God, and Mohammed is his prophet." This religion predominates in Turkey in Europe, and the western part of Asia. It is also scattered over other parts of Asia, and portions of Africa. Mohammedan places of worship are called mosques.

8. **The Brahmins, and Buddhists**, or worshipers of the Grand Lama, believe in a deity who holds communion with mankind

through many inferior divinities, some good, and some bad. Of these they have images and idols, which they worship in temples called pagodas.

Brahmanism is a very old system of pagan worship. Brahm, the supreme divinity of this system, delegated his power to three inferior gods, Brahma, the creator, Vishu, the preserver, and Siva, the destroyer. The Hindoos are followers of this faith.

About four hundred years before the Christian era, a great reformer arose under the name of Buddha, "the enlightened," who introduced many important changes into Brahmanism. He is worshiped as a god, and his followers are called Buddhists. This religion, in a modified form is the religion of the Japanese, Chinese, and most other Mongols. There are no distinctions of caste among the Buddhists so common among the Brahmanists.

9. **The Religion of Confucius** is rather a system of morality taught by Confucius, who lived about 500 B. C., than a religion, as it does not include the worship of a god. It rejects divine revelation and accepts a moral philosophy founded on the wants and tendencies of human nature. This faith has many adherents among the Chinese.

10. **The Shinta Religion** is in essence ancestral worship and sacrifice to departed heroes. The following commands form the basis of the Shinta faith:—1. Thou shalt honor the gods and love thy country. 2. Thou shalt clearly understand the principles of heaven and the duty of man. 3. Thou shalt revere the emperor as thy sovereign, and obey the will of his court. The Japanese are its principal devotees.

11. **Mormonism** consists in the belief and practice of the doctrines as taught by Joseph Smith, found in a book called Mormon. It claims their leader to have worked miracles, and to have received additional revelation from heaven on tables or plates of gold, called Mormon. Polygamy is practiced among its adherents.

12. Many ignorant and savage tribes, called pagans, believe in fetishes, or good and bad spirits, which dwell in particular places. They also put faith in idols and amulets. To their gods they pay a kind of worship which often consists in dance sacrifices, and other uncouth rites, designed to propitiate them. Cannibals are those who not only practice human sacrifices, but also eat human flesh.

13. Christians maintain that all other religions other than their own are false; and, if we compare the state of society in Christendom with that in other parts of the earth, we shall see that, while Christianity tends to enlighten and elevate the mind, all the heathen religions debase and degrade it.

STATISTICS OF PRINCIPAL RELIGIONS.

Roman Catholics	215,000,000
Protestants	130,000,000
Greek Christians	78,000,000
Buddhists	300,000,000
Brahmins	145,000,000
Religion of Confucius	100,000,000
Shinta Religion of Japan	12,000,000 to 20,000,000
Mohammedans	199,000,000
Jews	7,000,000

CHAPTER VI.

LANGUAGES OF MANKIND.

1. **Language** is any means of communicating thought, feeling, or purpose. Language may be classed as follows :

Language, { 1. Natural.
 { 2. Artificial, { a. Spoken.
 b. Written.

(1) **Natural Language** is that which all beings have in common, and consists in laughing, weeping, expressions of the face, gestures, and the like.

(2) **Artificial Language** is language invented by man.

(3) **Spoken Language** is the expression of thought, feeling, etc., by means of articulate sounds.

(4) **Written Language** is the communication of thought, etc., by means of written or printed characters.

2. There are many different languages in the world, and even different letters and alphabets. All the languages of Europe have the same letters as our own, except the Greek and Turkish. The following are specimens of some of the principal European languages, given in the first line of the Lord's prayer:

English—Our Father, which art in heaven.

German—Unser Vater, in dem Himmel.

Dutch—Onze Vader, die in de hemelen zijt.

Latin—Pater Noster, qui est in coelis.

Italian—Padre nostro, che sei ne' cieli.

Spanish—Padre nuestro, que estas en los cielos.

French—Notre Pere, qui es aux cieux.

3. In all these languages the same letters are used; the numeral signs are the same. As to numbers, they form a universal language for Europe and America. 1, 2, 3, 4, 5, etc., though called by different names, carry the same ideas throughout those countries.

4. There are about eighty languages in the world, and 3,500 dialects; some authors estimate the number of languages more than 800, and dialects 5,600.

A Dialect is a peculiar mode or form of writing and speaking a language. More than 1,600 dialects exist among the American Indians.

5. **The English Language**, spoken by us, as well as by the people of Great Britain, is the most extensively used of any European tongue. It is noted for its strength, simplicity, large vocabulary, and the great number of books and newspapers printed in it.

The German Language is not so smooth as the English or French, but many valuable books have been written in it.

The French, for a long time the court language of Europe, is noted for its beauty, ease in learning it, power of expression, and for its many valuable books.

The Italian is the language of poetry and song.

The Spanish and Portugese are also cultivated much.

The Chinese is spoken by the greatest number of people.

6. There are many books in the Chinese, Persian, and Arabic languages; but they are far inferior to those of Europe.

The rudest tribes of men have language; but many tongues are never used in writing or in books.

7. The languages spoken by the Germanic nations are derived from the ancient German. Those languages derived from the ancient Latin are called Romanic.

The following classification will indicate at a glance the derivation of the principal languages of Europe:

LANGUAGES	{	1. GERMANIC	{	1. English.	5. Swedish.
				2. German.	6. Swiss.
				3. Dutch.	7. Danish.
				4. Norwegian	
	{	2. ROMANIC	{	1. French.	3. Portugese.
				2. Spanish.	4. Italian.
	{	3. CELTIC	{	1. Irish.	
				2. Scotch.	
				3. Welsh.	
	{	4. SLAVONIC	{	1. Russian.	
				2. Polish.	
				3. Turkish.	

CHAPTER VII.

OCCUPATIONS OF MANKIND.

1. Most of the animal tribes, as quadrupeds, birds, fishes, insects, etc., live on the spontaneous products of nature.

2. These have hair, or feathers, or scales for clothing. They dwell in the open air or in water, without shelter, or in rude or inartificial houses and homes.

3. It is otherwise with mankind. They are born naked, and must have artificial clothing. They must have various kinds of food, mostly prepared by cookery; and, finally, they must have well constructed houses.

4. In a savage state the wants of man are few, and he lives almost like a beast; but as he grows more refined his wants are multiplied, and, to supply them, he becomes a thinking, contriving, industrious being. Thus the desires of man are the sources of his improvement.

5. In a cultivated state of society some men devote themselves to *agriculture*; that is, they till the land, and are called *farmers*, or husbandmen. To the labor of a farmer we are indebted for wheat, rye, and other grains, which are made into bread; and for meat, milk, and the flax, wool, and cotton of which our clothing is made.

6. Some persons devote themselves to the making of shoes, clothes, hats, and other articles; these are called *manufacturers*. Many men learn trades, such as that of a mason, carpenter, blacksmith, etc.; these are called *mechanics*.

7. Some persons buy and sell different kinds of useful articles. The common business of buying and selling is called *trade*; that which is carried on in ships, or vessels, is called *commerce*.

It is by the means of commerce that the products of one country are carried to other countries. By means of commerce we get tea from China, pepper from Sumatra, coffee from Java, sugar from the West Indies, oranges and lemons from Portugal, figs from Smyrna, silks from France, etc. We give, in exchange for these articles, the products of our own industry.

8. The *exports* are the articles sent out of a country, as merchandise; the *imports* are the articles of merchandise brought into a country. *Domestic commerce* is the trade between places of the same country. *Foreign commerce* is the trade between different countries.

9. Many persons devote themselves to mining, for the purpose of obtaining coal, iron, tin, copper, gold, and silver; others become fishermen; others, huntsmen; others again, fell trees for timber.

10. One of the principal occupations of society, in all ages of the world, has been that of war.

The profession of the soldier has generally taken precedence of the industrial and productive occupations. Mankind has at last learned, however, that war is generally destructive to the best interests of the people at large, and hence there is a growing love of peace among all intelligent nations. We may hope that the day is not far distant when nations shall lay aside their weapons of misery and death, and learn to war no more.

The Productions of a country form important topics of geography. These are called agricultural, mineral, and manufactured.

The *agricultural productions* may be divided into two classes, vegetable and animal. The most important vegetable productions are wheat, corn, rice, potatoes, cotton, trees for building, and medicinal plants.

The leading manufactured products are cotton and woolen goods, silks, hardware, machinery, agricultural implements, boots and shoes, clothing, furniture, paper, books, musical instruments, articles of fashion, etc.

Domestic animals are those animals which have been tamed by man for his use, to assist him in the production of wealth. The most useful domestic animals are the horse, mule, cow, sheep, goat, dog, hog, etc.

CHAPTER VIII.

VIEW OF THE WORLD—GEOGRAPHICAL OUTLINE.

1. The surface of the globe is viewed by geographers under six grand divisions.

EXTENT AND POPULATION.

2. It is supposed to contain nearly 200,000,000 square miles. A little over 50,000,000 are land, and 150,000,000 water. The whole number of inhabitants upon the globe is estimated at 1,436,800,000, distributed as follows:

Grand Divisions.	Extent in square miles.	Population.
North America	9,350,000	74,000,000
South America	6,940,000	28,600,000
Europe	3,928,000	330,000,000
Asia	17,138,000	794,000,000
Africa	11,538,000	206,000,000
Australia	3,659,000	4,200,000
	52,525,000	1,436,800,000

THE HEMISPHERES.

3. These are usually so drawn that the western hemisphere contains the American continents, and the eastern hemisphere the eastern continent, embracing Europe, Africa, and Asia. Each hemisphere ranges through 180 degrees of longitude; the dividing lines are the meridians 20 degrees west of Greenwich and 160 degrees east of the same.

The earth is also divided into two hemispheres by the equator; the one north of this line is called the northern hemisphere, and the one south is called the southern hemisphere.

4. In looking at the maps of the hemispheres, it is observed that by far the largest portion of land on the globe lies north of the equator, or in the northern hemisphere.

5. All North America, the West Indies, a portion of South America, all Europe, Asia, and nearly all Africa, lie in the northern hemisphere.

6. The greater part of South America, a small portion of Africa, and all Australia lie in the southern hemisphere.

7. In general it may be stated that not more than 50,000,000 people—that is, not more than one-thirtieth of the population of the globe live south of the equator.

WATER AND LAND.

8. As has been stated, by far the greater portion of land lies in the northern and eastern regions of the globe, and the water lies mainly in the south-western regions. To the former has been given the name

Land Hemisphere, embracing six-sevenths of all the land, and to the latter has been given the name Water Hemisphere.

The pole of the Land Hemisphere is London; that of the Water Hemisphere, near New Zealand.

NATURAL ADVANTAGES.

9. The three great pursuits of man are agriculture, manufacturing, and commerce, and in studying the advantages offered by any country we look to those things which foster and encourage these industries. If we wish to know whether a country is adapted to agriculture, we study the fertility and nature of the soil, the climate as regards temperature and healthfulness, the markets—home and foreign, the facilities for transporting the products of the soil, ease of cultivation, and what products are best adapted.

A country to possess advantages for manufacturing must have plenty of raw material within easy reach, such as coal, iron, timber, cotton—good and cheap facilities for shipping, cheap living, and easy access to the great markets.

The Commercial Advantage consists in plenty of sea-coast, abounding in good harbors, large navigable rivers and lakes, easy access to other countries, and a general proximity to large waters.

CHAPTER IX.

HISTORICAL OUTLINE—ANTIQUITY OF THE EARTH.

1. By examining the surface of the earth, geologists have come to the conclusion that the globe on which we live has existed for many thousands of years. It appears to have undergone many revolutions, during which there have been several successive creations, by which the whole animal and mineral kingdoms have been changed.

MOSAIC CREATION.

2. But that creation of which the Bible tells us, when the present continents and oceans were formed, and when the present races of animals, with man himself, were made by God, took place nearly 6,000 years ago.

EARTH PREPARED FOR MAN.

3. Previous to this time no human beings had existed on the earth. Various kinds of animals had lived and perished; vegetation had overspread the face of nature; but, as yet, there had been no tenant of the globe endowed with intelligence sufficient to understand and appreciate the ways of Providence, but at last the earth was fitted and prepared to be the abode of man.

ADAM AND EVE.

4. And now God created Adam and Eve. At this point of time the history of the human race begins. We are entirely indebted to the first books of the Old Testament for an account of the creation, and the history of the world for 2,000 years after that event. The history of subsequent ages is made up from inscriptions upon monuments, the remains of sculpture, and from manuscripts and documents of various kinds.

CAIN AND ABEL.

5. The Bible informs us that Adam and Eve had several children; the first of whom was Cain, and the next Abel. These quarreled, and Cain killed his brother; a terrible event, foreshadowing that strife which, in all ages, has filled the history of mankind with records of battle and bloodshed.

THE DELUGE.

6. The place where Adam and his immediate descendants lived was in the western part of Asia, where the climate was warm and the soil fruitful; and as many of them lived to the age of eight or nine hundred years, they increased rapidly and built large and populous cities. But they became very wicked, and the race was cut off by a deluge, or flood, 2,348 years before Christ, or 1,565 years after the creation.

NOAH—BABEL.

7. Noah and his family, with pairs of various animals, were saved in an ark, which he built by the command of God. These persons settled in the valley of the Euphrates, and their descendants began to build a tower, called Babel, which should reach to the skies. But they were punished for their vanity; for in the midst of their work their language was confounded so that the workmen could not understand each other. This event, called the confusion of tongues, took place 2,247 years before Christ.

CHAPTER X.

DISPERSION OF MANKIND—EMIGRATION.

1. At this very early period various bands of emigrants left the valley of the Euphrates and settled in different parts of Asia. Some also proceeded to Africa, and founded the kingdom of Egypt, 2,188 B. C.

2. After several centuries other companies established themselves in Europe; still later, various tribes found their way to the Pacific ocean, and, at last, to America. Thus the six grand divisions of the earth were populated by the descendants of Adam and Eve.

VARIETIES OF MANKIND.

3. At the present time we find mankind not only differing in government, religion, manners, customs, but also in personal appearance, intelligence, character, and language. These varieties are supposed to be the result of differences in climate, food, government, and modes of life.

ASSYRIA.

4. Although large numbers of people emigrated from the valley of the Euphrates, it appears that multitudes remained, and here the first great empire began 2,229 B. C. This was called Assyria, and its capital bore the name Nineveh. The latter became a mighty city, with, at least, half a million inhabitants; but it is now a heap of ruins—its houses, temples, and palaces being buried beneath the soil.

BABYLON.

5. Babylon was another great city, founded in these ancient times, and at no great distance from Nineveh. It became the most splendid city in the world, and is often mentioned in the Bible. This, too, has perished. Where kings and queens and princes once dwelt, the wolf and jackal, the owl and the bat find a sure retreat.

ORIGIN AND PROGRESS OF CIVILIZATION.

6. It appears that civilization had its beginning in Western Asia. Here mankind first formed society, organized government, and made progress in arts and sciences. At no distant day Egypt became the most enlightened, cultivated, and civilized country in the world. At a later period the arts and sciences passed into Europe, where they were carried to greater perfection than they had been before. America was discovered at a later date, and hither European civilization was gradually transplanted.

CHAPTER XI.

HISTORY OF GEOGRAPHY.

The knowledge of geography possessed by the ancients was exceedingly limited, and their ideas and notions concerning this world we live in were very erroneous.

The Phenicians were the first who made any great progress in extending the bounds of geographical knowledge. They explored all the coasts of the Mediterranean, passed through the Strait of Gibraltar, and visited the shores of Europe to Britannia and the Baltic. They also continued their explorations along the shores of Africa to the Tropic of Capricorn. What knowledge of distant lands the Hebrews possessed they doubtless obtained of the Phenicians.

Necho, King of Egypt about 600 B. C., was the first who made any attempt to enlarge the bounds of geographical knowledge by an exploring expedition. He sent a fleet of Phenicians down the Red sea and into the Indian ocean; after circumnavigating Africa they came back through the Pillars of Hercules, or Strait of Gibraltar.

The Carthaginians did much to increase a knowledge of geography among the ancients. Their extended commerce led necessarily to long voyages, and in this way became acquainted with many lands and many peoples.

About 320 B. C., Pytheas, of Masilla, the modern Marseilles, visited some distant land, supposed by some to have been Iceland, by others Jutland. About 330 B. C., Alexander the Great, by his explorations in the conquest of the world, greatly enlarged the knowledge of Asia. He traveled as far as India and China.

Erastosthenes was the first who made a systematic attempt at scientific geography. He flourished at Alexandria in the latter part of the third century B. C. The scientific schools of Alexandria recognized the globular form of the earth, and Erastosthenes based his system upon this recognition, though he did not regard any such thing as equator, poles, and tropics—primal features of modern geography. The central base line was a parallel drawn through all places having fourteen and one-half hours as their longest day. Iceland was considered the north end of the world. While it was generally believed that beyond these discoveries there was nothing but an impassable ocean, Erastosthenes conjectured that continents and islands might be reached by sailing westward.

Hipparchus, who lived at Rhodes, in the second century B. C., succeeded Erastosthenes, and based the whole science of geography on astronomical principles, which was only a development of the system as explained by his predecessor.

Strabo, a Greek of Pontus, and a great traveler, who lived about the time of the dawn of the Christian era, wrote the first treatise on geography. The knowledge of the earth at this time was still quite vague. The countries bordering on the Mediterranean were tolerably well known, but the knowledge of the rest of the world was very imperfect. They knew nothing of China, Siberia, Tartary, Japan, and looked upon the Caspian sea as the northern limit of the world.

The earliest Roman geographer, Pomponius Mala, who lived in the time of Claudius, divided the earth into two hemispheres; the northern, that part of the earth which is known, and the southern, which is unknown. The former he divided into three great divisions, Europe, Asia, and Africa; however, the boundaries of these divisions were not exactly as defined by modern geographers.

Ptolemy, a still more famous geographer, a resident of Alexandria, lived in the second century after Christ.

The notion that the known world was surrounded by boundless seas had been given up, and that the boundary of the world was an expanse of *terra incognita* was substituted. Africa was supposed to

extend indefinitely to the south, and the Indian ocean was represented as being surrounded by land, like the Mediterranean.

From this time on during the dark ages but little progress was made in geographical knowledge. In the sixth century the Northmen are said to have discovered Greenland, and in the tenth century, America. Marco Polo, a Venetian, gave the first knowledge to Europe of the Japan islands. He lived in the thirteenth century A. D. In the fifteenth century the spirit of enterprise and exploration was aroused, and Portugal took the lead.

But the greatest of all geographical explorers, whose name will live in the memory of man as long as time shall last, and whose praises will be sung to all coming generations, was Christopher Columbus. He was a native of Genoa. A knowledge of the spherical figure of the earth led Columbus to believe the eastern parts of the earth approached so near Europe that they could be reached by sailing westward. The great object which at this time engaged the maritime world was to find a passage by sea to India. On August 3, 1492, under the patronage of Ferdinand and Isabella, king and queen of Spain, he left Palos with three small vessels and ninety men. On the 12th of October following, after a perilous voyage, he discovered Guanahani, one of the Bahamas, and which he named San Salvador. He made three other successful voyages, but was finally ignominiously thrown into prison, where he died ignorant of the fact that he discovered a continent.

From this time forth many discoveries and explorations were made, and a knowledge of the earth rapidly increased. The Persians have aided much in a better knowledge of Asia. The chief African explorers have been James Bruce, Mungo Park, Major Denham, Lieutenant Clapperton, Richard Lander, Captains Burton and Speke, Dr. Livingstone, Dr. Barth, Henglin, Sir Samuel Baker, Stanley, and Paul Du Chaillu.

Humboldt, Lewis, and Clark, by their travels, have enlarged our acquaintance with the interior of America.

China and Japan have lately been opened to the world, and our knowledge of these countries has greatly increased. Much of the interior of Australia remains to be explored. Of the island of New Guinea we are almost wholly ignorant, except what has been observed along the coast.

Carl Ritter created the science of comparative geography, although marked changes have taken place since his time in the literature of geography. Under the auspicious labors of such excellent institutions as the London Geographical Society, we may reasonably hope that, in the near future, our knowledge of this world will be much more extended and much more perfect.

DESCRIPTIVE GEOGRAPHY.

CHAPTER I.

SUGGESTIONS TO TEACHERS.

The following topic list is to be used in the preparation and recitation of lessons. After the map exercises have been carefully learned and recited the description of the country under consideration should be taken up. Assign to each pupil one or more topics, to be written out on the black-board, and then recited and criticised; or, if preferred, these topics can be recited orally.

Only the names of places to be located need be written; the locating should be done according to model given below.

TOPIC LIST.

- | | | | |
|-----------------|--|------------------------------------|--|
| I. Position | { 1. By Boundaries.
2. By Latitude and Longitude. | X. Com-
merce | { 1. General Features.
2. Exports.
3. Imports. |
| II. Extent | { 1. Length.
2. Breadth.
3. Area. | XI. Natural
Advantages | { 1. For Agriculture.
2. For Commerce.
3. For Manufacturing. |
| III. Coast | { 1. General Outline.
2. Capes.
3. Gulfs and Bays.
4. Seas.
5. Channels, Straits, Sounds.
6. Islands.
7. Peninsulas. | XII. Internal
Improvements | { 1. Public Roads.
2. Railroads.
3. Canals, etc. |
| IV. Surface | { 1. General Characteristics.
2. Mountain Ranges.
3. Mountain Peaks.
4. Plains, Plateaus, Valleys.
5. Natural Curiosities. | XIII. Animals. | |
| V. Lakes | { 1. Location.
2. Description and uses. | XIV. Political Divisions. | |
| VI. Rivers | { 1. Course.
2. Size. { 1. Length.
3. Uses. { 2. Size of Basin. | XV. Inhabitants | { 1. Race.
2. Number.
3. Occupation.
4. Language.
5. Government.
6. Education.
7. Religion.
8. History. |
| VII. Soil. | | XVI. Chief
towns and
cities. | { 1. Location.
2. Population.
3. Leading Industries. |
| VIII. Climate. | | XVII. Foreign Possessions. | |
| IX. Productions | { 1. Agricultural.
2. Mineral.
3. Manufactured. | | |

HOW TO MAKE MAP EXERCISES INTERESTING.

"In geography, much has to be learned as words, or little more; the verbal memory has a large share in the acquisition. In this view, the names should be relieved of dryness by various arts, as well as by endeavoring to impress real conceptions corresponding to them."—*Alexander Bain.*

The map exercises can be made very interesting, as follows: Divide the class in two equal sections, say A and B; give one question or more to each pupil, and when the A's recite, allow the B's to correct the errors; do this by selecting some one of the B's, but if he fails, allow some one of the A's to correct, and so save the question to his side. No one should have more than one trial, and neither side more than two, on the same word. Some one may be allowed to keep a tally of questions missed. The teacher must be arbitrator.

MODELS FOR MAP EXERCISES.

Bays, etc.—The Hudson bay is in the north-eastern part of North America, and is a tributary to the Atlantic ocean. James bay is in the southern part of Hudson bay.

Capes.—Cape Barrow projects from the northern shore of Alaska into the Arctic ocean.

Straits.—Behring's strait separates North America from Asia, and connects Behring's sea with the Arctic ocean.

Islands.—Newfoundland lies east of North America, between the Gulf of St. Lawrence and the Atlantic.

Peninsulas.—Florida projects south-east from the south-eastern part of the United States, between the Atlantic and the Gulf of Mexico.

Mountain Ranges.—The Appalachian mountains are in the eastern part of the United States, and trend north-east and south-west.

Mountain Peaks.—Mount St. Elias is in south-eastern Alaska.

Plains.—The Colorado plateau lies between the Rocky and Wasatch mountains.

Lakes.—Lake George is in the eastern part of New York.

Rivers.—The Mississippi river rises in Lake Glazier, in Minnesota, flows in a southerly course, and empties into the Gulf of Mexico.

Cities.—New York is situated in south-eastern New York, on the Bay of New York.

Columbus, the capital of Ohio, is situated near the center of the state, on the Scioto river.

CHAPTER II.

NORTH AMERICA.

MAP EXERCISES.

Locate the following:

GULFS, BAYS, AND SEAS.

Caribbean, Mexico, Hudson, Baffin's, California, Chesapeake, Honduras, James, Coronation, Boothia, Fundy, Ungava, Lincoln.

CAPES.

Barrow, Bathurst, Prince of Wales, San Lucas, Blanco, Flattery, Mendocino, Mariato, Chidley, Charles, Sable, Hatteras, Cod, Race, Farewell, North.

CHANNELS, STRAITS, AND SOUNDS.

Florida, Hudson, Davis, Denmark, Behring's, Fox, Melville, Belle Isle, Chesterfield Inlet, Yucatan.

ISLANDS.

Newfoundland, Cuba, Hayti, Jamaica, Porto Rico, West Indies, Bahama, Greenland, Iceland, Cape Breton, Bermuda, Vancouver, Queen Charlotte, North Devon, Baffin Land.

PENINSULAS.

Lower California, Yucatan, Alaska, Labrador, Florida.

MOUNTAIN RANGES.

Rocky, Appalachian, Sierra Madre, Wasatch, Sierra Nevada, Cascade, Coast, Alaskan.

MOUNTAIN PEAKS.

St. Elias, Fairweather, Fremont's Peak, Popocatepetl, Shasta, Brown, Hooker, Hecla.

PLAINS, PLATEAUS.

Colorado, Great Basin, The Great Plains, Atlantic Coast Plain, Mississippi Valley, Arctic Plains, Arctic Plateau.

LAKES.

Great Lakes, Superior, Michigan, Huron, Erie, Ontario, Winnipeg, Great Salt, Deer, Athabasca, Great Slave, Great Bear.

RIVERS.

Mississippi, Missouri, Platte, Arkansas, Red, Ohio, Rio Grande, Colorado, Columbia, Yukon, Mackenzie, Athabasca, Saskatchewan, Albany, Nelson, Churchill, St. Lawrence.

CITIES.

Washington, New York, Philadelphia, Vera Cruz, Boston, Cincinnati, Louisville, Chicago, Acapulco, Cleveland, Buffalo, Quebec, Montreal, Mobile, Ottawa, Toronto, Halifax, St. Johns, Denver, St. Louis, New Orleans, San Francisco, Mexico, Havana, Mazatlan, Matamoras, Guatamala, San Salvador, Detroit, Milwaukee.

RELATIVE POSITION.

In what direction is Quebec from Mexico? from Havana? Montreal? Mexico from Greenland? from Central America? Alaska? West Indies? St. Louis from Nashville? from New Orleans? Mexico? New York? Baltimore? San Francisco? Austin?

TRAVELS.

Through what countries would you pass in traveling by land from Prince of Wales to the Isthmus of Panama? from Labrador to Mexico? to Florida?

Trace a water route from New York to Halifax; to New Orleans; San Francisco; St. Paul; Vera Cruz; Chicago. From New Orleans to Pittsburgh; to Columbus; Kansas City; Havana.

MISCELLANEOUS.

- What is the latitude of the mouth of the Mississippi? of Mexico?
- Washington? St. Louis? Quebec? What is the longitude of the same places? What place of North America has now the longest day? The shortest day? Are the days and nights anywhere of equal length? What is the difference of time between Washington and Chicago? Columbus? New York? Portland? In what direction from the north pole is Iceland? In what part of North America does the sun not set on the 21st of June? By means of the scale of miles, what is the distance from Washington to New York? to Columbus? Chicago? New Orleans? James Bay? Cape Bathurst? Cape Farewell? Two men start from Buffalo; the one travels 5 degrees east and the other 5 degrees south; which has traveled farther, and about how much? What is the altitude of the sun at noon in Boston on the 22d of September? on the 21st of December?

DESCRIPTION.

POSITION.

1. North America lies between the parallels 7° and 72° north and between 55° and 178° west longitude.

It is bounded on the north by the Arctic ocean; on the east by the Atlantic; on the south by the Atlantic, South America, and the Pacific; on the west by the Pacific.

EXTENT.

2. Its length is nearly 5,000 miles, and greatest breadth about 3,200 miles. Area, 9,350,000 square miles—about one-sixth of the land surface of the globe.

COAST.

3. North America is nearly the shape of a triangle, and its coasts are very irregular, being indented by vast gulfs and bays. The coast line measures 30,000 miles, and contains many of the finest and most capacious harbors in the world. It has one mile of coast to every 312 square miles of surface.

CAPES.

4. The extreme capes are Barrow, Charles, Mariato, and Prince of Wales; others are Sable, Farewell, Cod, Hatteras, etc.

GULFS AND BAYS.

5. The eastern coast is much more indented than the western. The most important inlets are Baffin's bay, Hudson bay, the Gulf of St. Lawrence, which gives an entrance into the Great Lakes, Gulf of Mexico, California, and so on.

SEAS.

6. There are but few seas on the coast. The Caribbean lies south-east of the Gulf of Mexico; Lincoln sea, north-west of Greenland.

CHANNELS AND STRAITS.

7. The Hudson strait, named after its discoverer, Henry Hudson, connects the Hudson bay with the Atlantic ocean, and separates Labrador from the islands north. The Strait of Belle Isle connects the Gulf of St. Lawrence with the Atlantic, and separates Newfoundland from Labrador. The Strait of Florida connects, etc.

Names.	Width of Straits.	Length.	Remarks.
Hudson . . .	60 to 150 miles.	400 miles.	Navigation unsafe. Discovered by Vitus Behring, 1728.
Belle Isle . .	12 "	48 "	
Florida . . .	50 "	40 "	
Behring's . .	36 "	400 "	
Denmark . . .	140 "		
Davis . . .	200 "		
Smith's Sound	80 "	110 miles.	

ISLANDS.

8. Many of the islands are very large and productive, but a vast majority of them are situated in the Arctic regions and are but little known. Some of the principal islands are Iceland, north-east of the continent, and Newfoundland, east of the Gulf of St. Lawrence. Greenland, more than 1,400 miles long, is probably the largest island in the world; some geographers think it is a cluster of islands frozen together. Iceland geographically belongs to America, but is considered by some as belonging to Europe, because of its early discovery, in the ninth century A. D. The areas of the principal islands are as follows:

Greenland,	830,000 square miles.	Vancouver,	16,000 square miles.
Newfoundland,	40,000 " "	Iceland,	40,000 " "
Cuba,	43,000 " "	Jamaica,	4,250 " "
Hayti,	30,000 " "		

PENINSULAS.

9. The peninsulas of most importance are Florida, in the south-eastern part of the United States; Yucatan, Lower California, Nova Scotia.

SURFACE.

10. The physical features of North America are on the most gigantic scale. Here we find the longest rivers, many of the highest mountains, the most extensive plains, the most sublime cataracts, the largest lakes, the finest valley in the world. The country slopes from the water-shed northward toward the Arctic and southward toward the Gulf, with the trough basin of the St. Lawrence between, sloping to the north-east toward the Gulf of St. Lawrence. The Rocky and Appalachian mountains each turn their vast sides toward the Pacific and Atlantic.

MOUNTAINS.

11. The Rocky mountains trend nearly north and south, from 200 to 700 miles from the coast; south of Colorado they are called Sierra Madre. (Sierra means range, and Madre mother.) The loftiest peak is Mt. Brown. The ranges west are the Cascade, Sierra Nevada, and Coast Range. The Appalachian system in the eastern part of the

United States trends north-east and south-west, and comprises many ranges, the principal of which are Alleghany, Cumberland, and Blue.

PEAKS.

12. The following are the highest peaks of the various ranges:

St. Elias,	19,500 ft.	Hooker,	15,750 ft.	Pike's Peak,	14,147 ft.
Fairweather,	15,500 ft.	Washington,	6,228 ft.	Popocatepetl,	17,780 ft.
Shasta,	14,440 ft.	Long's Peak,	14,271 ft.	Whitney,	15,000 ft.
Brown,	16,000 ft.	Mitchell,	6,700 ft.		
Mean height of Rocky Mountains, 10,000 to 12,000 feet.					
" " Sierra Nevada, 8,000 to 10,000 feet.					
" " Appalachian, 3,000 to 4,000 feet.					

PLAINS, PLATEAUS, ETC.

13. The Mississippi Valley, one of the most extensive in the world, lies between the Appalachian and Rocky mountains. It is noted for its fertile soil and excellent drainage. The Colorado Plateau, between the Rocky and Wasatch, is, on an average, 6,000 to 7,000 feet above the sea-level. The Great Interior Basin is elevated from 4,000 to 6,000 feet, and is sterile. The Height of Land separates the rivers flowing into the St. Lawrence system from those flowing into the Hudson Bay system. There are many valleys of great beauty and fertility. The Plateau of Anahuac is the most elevated portion of Mexico, having an altitude of 6,000 to 8,000 feet. The Arctic Plateau has a height of 1,500 feet.

NATURAL CURIOSITIES.

14. North America abounds in objects of great interest. A more detailed account of its curiosities will be given in the treatment of its divisions.

The Niagara and Yosemite falls are the grandest in the world. The Mammoth Cave has been explored many miles. Other caves, as the Madison, Blowing, Richmond, are of great interest. The mountain and lake scenery is not surpassed by that of any other grand division. The Great Canon of the Colorado is the most sublime spectacle of its kind, being from 2,000 to 6,000 feet deep in many places; while the vast plains, enriched with nature's most profuse and luxuriant vegetation, stretch out in long distances.

LAKES.

15. North America is renowned for its great lakes. It contains three-fourths of all the fresh water on the globe.

The largest, Lake Superior, is about one-third as large as Great Britain. Between lakes Erie and Ontario is the sublime cataract of Niagara. There are two great lake regions in North America; the first commencing in the eastern part, including the lakes of Maine and

Canada, together with the Great Lakes, and thence reaching to the Arctic ocean; the second is found in the western part, embracing the lakes of Oregon, Nevada, California, etc. The latter are nearly all salt. The lakes of this grand division are also noted for their great depth and the commercial facilities they afford. In the north they are very transparent; in some, as in Great Bear lake, a white object can be seen at the depth of ninety feet.

Name.	Area Square Miles.	Height above sea-level, in feet.	Depth in feet.	Name.	Area square miles.	Height above sea-level, in feet.	Depth in feet.
Superior .	32,000	603	1,000	Winnipeg	10,000	628	
Huron . .	21,000	582	800	Nicaragua	6,165	128	320
Michigan	22,400	582	1,000	Great Bear	14,000		
Erie . . .	9,600	573	204	Great Slave	11,800		
Ontario .	6,300	250	606	Salt Lake	2,600	4,210	60

RIVERS.

16. The Mississippi, measuring from the source of the Missouri, which may be considered its head stream, is the longest river in the world. Many other rivers are of great size and vast commercial importance. Among these are the St. Lawrence, the Ohio, Arkansas, Red, etc. The Columbia and the Colorado are interrupted by numerous rapids and cascades. The Mackenzie and the Yukon, though very large, are too far north to be useful for navigation.

The three great water-sheds of North America divide it into four great hydrographical basins: 1st. That which empties its waters into the Arctic; 2d, the Atlantic basin; 3d, the Pacific basin; and 4th, the Gulf basin.

Name.	Length in miles.	Area of basin. Sq. miles.	Name.	Length in miles.	Area of basin. Sq. miles.
Mississippi.	4,200	1,197,500	Arkansas. . . .	1,500	189,000
Missouri	2,900	518,000	Columbia. . . .	1,400	338,000
Mackenzie . . .	2,120	442,000	Rio Grande. . .	1,800	240,000
St. Lawrence. .	2,120	300,000	Ohio	950	214,000

SOIL.

17. North America embraces every variety of soil. Its vast fertile regions are known and celebrated everywhere. Except in the far north and in the great interior basin, its soil is unequalled in productiveness, and great multitudes from all parts of the world have been attracted hither to reap the rich rewards it yields to the husbandman.

CLIMATE.

18. The climate of North America is variable and generally healthy, but is subject to great changes. It may be remarked that it is about ten degrees colder on the Atlantic coast than on the opposite coast of Europe; the Pacific coast is also warmer than the Atlantic, owing to the Pacific equatorial current sweeping along the western shore. The prevailing westerly winds bring genial warmth, and so render the climate of the Pacific states warmer. The extreme cold of the north-east is referable to the Arctic currents which skirt these shores.

PRODUCTIONS.

19. The leading agricultural productions are wheat, corn, rye, oats, barley, rice, cotton, tobacco, cattle, horses, sheep, swine, and the various fruits of torrid and temperate zones. America through its discovery has furnished to the world Indian corn and the Irish potato, articles of food which enter more largely into human consumption than any other article except rice; they are also used as sustenance for animals. Tobacco, another important product, is also indigenous to America.

MINERALS.

20. Minerals of nearly all kinds are abundant. Gold is found in many parts, but especially in the western part of the United States. Silver in Colorado, Nevada, California, Mexico, etc. Iron and coal abound in most all parts. The great lead regions of Illinois, Iowa, and Missouri are the richest in the world. Other minerals are also abundant: zinc, copper, antimony, cobalt, nickel, platinum, titanium, quicksilver, tin, etc. Large quantities of petroleum are found in Pennsylvania. Marble, granite, limestone, etc., exist in many localities.

MANUFACTURES.

21. The manufactured productions are numerous and of many varieties, such as cotton and woolen goods, machinery, hardware, clothing, furniture, agricultural implements, books, leather, butter, cheese, etc.

The United States takes the lead of the North American States in manufacturing.

COMMERCE.

22. America is still in its infancy, yet its commerce has grown to vast proportions. The United States ranks next to Great Britain in the commerce of the world. The commerce of the other countries, especially the West Indies, is considered.

(1) America exports raw cotton, wheat, petroleum, lumber, cattle, fruits, and a great variety of manufactures.

(2) The imports are manufactured articles from Europe, wines, raisins, tea, and the like.

NATURAL ADVANTAGES.

23. The excellent soil, favorable climate, and good facilities for markets are the chief inducements and advantages for agriculture; while its extensive and numerous bays, length of sea coast, navigable rivers, broad and deep lakes, afford advantages for commerce not excelled by any other grand division. North America has one-third more sea-coast than Asia, about three times that of Africa, and considerably more than Europe. There are 13,000 miles of coast on the eastern side, and 11,000 miles on the Pacific shore, including the indentations.

(3) The great abundance of minerals and all kinds of raw material, good shipping advantages, water power, cheap living are rapidly filling the country with manufacturing establishments.

INTERNAL IMPROVEMENTS.

24. The white inhabitants of North America, particularly those of the United States, have always been active in the invention, introduction, and spread of useful improvements of all kinds. In the construction of railroads and canals it takes the lead. Although the country is new, it ranks among the foremost nations of the earth in the variety and value of useful inventions.

There are now 152,000 miles of railroad completed.

ANIMALS.

25. The domestic animals, such as the horse, cow, mule, sheep, hog, etc., were brought hither from Europe by the first settlers.

Among the principal native animals are the musk ox, white bear, and silver fox of the polar regions. In the temperate parts are the bison, and several species of deer, bear, etc. In the southern portion are alligators and a variety of poisonous serpents.

There are 700 species of birds, of which nearly 300 are peculiar; the turkey and mocking-bird belong to the latter class.

POLITICAL DIVISIONS.

26. Danish America occupies the north-eastern part. The Dominion of Canada, the northern; United States, the central; Mexico, the south-western; Central America the southern; the West Indies lie between North and South America.

CITIES AND TOWNS.

27. The leading cities are New York, on New York bay; Philadelphia, on Delaware river; Boston, on Boston harbor; Washington, on Potomac river; New Orleans, on southern part of Mississippi river; Baltimore, on the Chesapeake bay; Chicago, on Lake Michigan; San Francisco, on San Francisco bay; Mexico, the capital of Mexico, in

the southern part; Montreal and Quebec, on the St. Lawrence river; Ottawa, on the Ottawa river, etc.

Cities.	Population.	Cities.	Population.
New York	1,206,000	Toronto	86,000
Philadelphia	847,000	Montreal	141,000
Brooklyn	567,000	Mexico	250,000
Boston	370,000	Havana	230,000
San Francisco	234,000	Halifax	36,000
Chicago	503,000	Vera Cruz	10,000

INHABITANTS.

28. The inhabitants of North America consist of the descendants of different European nations, Negroes, Indians, and mixed races. The extreme northern part and Labrador are inhabited by Esquimaux, who belong to the Mongolian race. The white races are everywhere the governing people, except among the wild Indians, and in the island of Hayti, where the people are chiefly of African descent, and have an independent government. These races are thus distributed: Indians, 6,000,000; mixed races, 3,000,000; Negroes, 10,000,000; Whites, 54,000,000; total population, nearly 75,000,000, or about eight to the square mile.

29. The leading occupation is agriculture, which gives employment to more than one-half of the whole population. Commerce, manufacturing, and mining are extensively carried on.

	Government.	Religion.	Language.
Danish America .	Belongs to Denmark . .	Lutheran	Danish and French.
British America .	" to Great Britain	Protestant and Catholic	English.
United States . .	Republic	Protestant chiefly . . .	English.
Mexico	Republic	Principally Catholic . .	Spanish.
Central America .	Republic	Principally Catholic . .	Spanish.

Hayti is occupied by two republics; Jamaica belongs to Great Britain; Cuba and Porto Rico to Spain. The language of these islands is chiefly Spanish; religion, Catholic.

EDUCATION.

30. Liberal provisions are made for education in the United States and some of the British provinces; in Mexico there are few schools of an high order, but here, as well as in Central America and the West Indies, the mass of the people are very ignorant and superstitious. Among the inhabitants of Iceland, education is far more general.

HISTORY.

THE NORTHMEN.

31. About the year 1,000 A. D., America appears to have been discovered by some people from Iceland, under Lief, son of Eric, who had discovered Greenland. They made settlements upon the coast, but soon left the country; and nothing was generally known of their adventures.

ENGLISH DISCOVERIES.

32. South America was discovered by Columbus in 1498, but North America was discovered the year previous, along the coast of Labrador, by John and Sebastian Cabot, two Italians sent out by the king of England, Henry VII. The next year Sebastian discovered Virginia; and in 1517 he entered one of the straits which leads into Hudson's bay.

SPANISH DISCOVERIES.

Ponce de Leon, a Spaniard, discovered Florida in 1512; Yucatan was discovered by Fernandez de Cordova in 1517; and Mexico, by Grijalva in 1518. De Soto discovered the Mississippi in 1542.

FRENCH DISCOVERIES.

Verrazzano, a Florentine, sent out by Francis I., touched along the coast, in 1524, from North Carolina to Rhode Island. He afterward proceeded to Newfoundland and explored its shores. In 1534-5 James Cartier entered the Gulf and River St. Lawrence, giving them their present name. He passed up as far as Montreal, and took possession of the country in the name of the king of France.

These discoveries, with others which followed, became the foundation of the several claims of these nations to territories in North America.

NOTES TO TEACHERS.

1. The pupil should, under no consideration, be required to commit the descriptive lessons so as to be able to recite them verbatim; nor should he be confined strictly to what is contained in the text, but should be allowed to express all he has learned on the subject in his own language, whether that be obtained from the text-book or elsewhere.

2. The various statistical tables are not intended to be learned by the pupil, only so much as the teacher may, with discretion, require; they should, however, be studied, because much of great value to the student of geography is to be learned from them.

It is customary to place these statistics at the end of the volume, but it has been my observation that they do not do much good when placed so far from the text, besides confusion and inconvenience result from referring to them. When placed in connection with the topic studied, the pupil is far more likely to study them, and thus becomes acquainted with many important facts he would otherwise overlook.

CHAPTER III.
UNITED STATES.

MAP EXERCISES.

Locate the following:

CAPES.

Cod, May, Charles, Henry, Hatteras, Lookout, Canaveral, Sable, Conception, Mendocino, Blanco, Disappointment, Flattery, Prince of Wales, Lisburne, Barrow, Fear.

GULFS AND BAYS.

New York, Delaware, Chesapeake, Tampa, Apalache, Mobile, San Francisco, Saginaw, Green.

STRAITS AND SOUNDS.

Long Island, Albermarle, Pamlico, Florida, Juan de Fuca, Puget's, Behring's, Norton, Kotzebue.

ISLANDS.

Long, Nantucket, Martha's Vineyard, Santa Barbara, Aleutian, St. Lawrence, Baranoff.

PENINSULAS.

Cape Cod, Florida, East Maryland, Lower Michigan, Upper Michigan, Alaska.

MOUNTAIN RANGES.

Appalachian, Alleghany, Blue, Blue Ridge, Cumberland, Green, Adirondack, Catskill, White, Rocky, Sierra Nevada, Cascade, Coast, Wasatch, Ozark.

MOUNTAIN PEAKS.

Pike's Peak, Long's Peak, Fremont's Peak, Shasta, Head, Adams, Baker, Olympus.

PLAINS, VALLEYS, ETC.

Mississippi, Atlantic Coast Plain, Colorado, Great Basin, Great Plains of Columbia, Llano Estacado or Staked Plain.

LAKES.

Great Lakes, Superior, Michigan, Huron, Erie, Ontario, Champlain, Great Salt, Tulare, of the Woods, Moosehead, Grand.

RIVERS.

Mississippi, Arkansas, Red, Missouri, Ohio, Cumberland, Tennessee, Alleghany, Monongahela, Hudson, Connecticut, Delaware, Penobscot, Susquehanna, Potomac, Roanoke, Cape Fear, Great Pedee, Santee, Savannah, Altamaha, St. Johns, Apalachicola, Mobile, Alabama, Tombigbee, Sabine, Trinity, Rio Grande, Colorado (Ara.), San Joaquin, Sacramento, Columbia, Yellowstone, Kansas, Platte.

CITIES.

New York, Philadelphia, Brooklyn, Chicago, Boston, St. Louis, Baltimore, Cincinnati, San Francisco, New Orleans, Cleveland, Pittsburgh, Buffalo, Washington, Newark, Louisville, Jersey City, Detroit, Milwaukee, Providence, Albany, Rochester, Alleghany, Indianapolis, Richmond, New Haven, Kansas City.

MISCELLANEOUS.

What states are crossed by the 25° north latitude? by the 30° ? by the 35° ? by the 40° ? by the 50° ? What states are crossed by the meridian of Washington? by the 82° west of Greenwich? the 90° ? the 100° ? the 110° ? the 120° ? What capitals on or near the 30° north latitude? the 35° ? the 40° ? the 42° ? the 44° ? What is the difference of time between Washington and Boston? Columbus? St. Louis? Denver? San Francisco? What meridians are employed by the railroads of our country in establishing the *standard* time.

RELATIVE POSITION.

In what direction is Maine from New York? Minnesota? Colorado? Texas? Ohio from Florida? Alabama? Texas? Delaware? Connecticut? Utah? Washington Ter.? Arizona? Arkansas? Missouri from Mississippi? New Jersey? Oregon?

TRAVELS.

What states would you cross in going in a straight line from Hartford to Austin? to Wheeling? In going from New York to San Francisco? to Montgomery? to St. Paul? In going from Columbus to Pensacola? Topeka? to Yankton? to Olympia? Trace a water route from New York to New Orleans; to Chicago. From Boston to Washington; to Liverpool; to St. Petersburg; to Richmond. From Columbus to Nashville; to Ft. Wayne. From Rochester to Oshkosh; to Duluth; to Denver.

DESCRIPTION.

(EXCLUSIVE OF ALASKA.)

POSITION.

The United States are bounded on the north by British America, on the east by the Atlantic, on the south by the Gulf of Mexico and

Mexico, and on the west by Mexico and the Pacific. They lie between the 25° and 49° north latitude, and between 67° and 124° west longitude.

EXTENT.

2. The length from east to west is about 2,800 miles, and from north to south 1,600 miles. Area, exclusive of Alaska, 3,027,000 square miles; with Alaska, 3,604,000 square miles.

Distances from Washington :

New York	225 miles.	Astoria	2,500 miles.
Augusta, Maine . . .	595 "	Quebec	840 "
New Orleans	1,172 "	Havana	1,300 "
Austin	1,500 "	San Francisco . . .	2,457 "

COAST.

3. With the exception of the north-east the coast of the United States on the Atlantic and Gulf is low.

The general trend of the Atlantic slope is south-west, but there are four distinct curves: the first from the eastern coast of Maine to New York; the second from New York to Cape Hatteras; the third from Cape Hatteras to southern Georgia; and the last extending thence to the southern end of Florida.

The shores of the Pacific are mostly bold and rocky. They contain few harbors.

The entire coast line measures 12,000 miles, exclusive of inlets, and 3,450 miles of lake coast; including inlets, about 24,000 miles. There are many safe and commodious harbors.

CAPES.

4. There are numerous capes projecting into the sea.

The pupil should be required to locate as many as he is able from memory.

GULFS AND BAYS.

5. The following is a list of the principal gulfs and bays :

Name.	Length. Miles.	Breadth. Miles.	Area. Sq. Miles.
Mexico	1,000	800	800,000
Cape Cod	35	25	600
New York	8	6	36
Delaware	55	3 to 25	700
Chesapeake	200	4 to 40	3,000
San Francisco	55	3 to 12	325
Mobile	36	18	560

STRAITS AND SOUNDS.

6. The Strait of Florida separates Florida from Cuba and the Bahamas. The Strait of Juan de Fuca is on the north-west of Washington territory. It is 100 miles long and twenty wide.

The principal sounds are as follows :

Name.	Length. Miles.	Breadth. Miles.	Area. Sq. Miles.	Depth.
Long Island	110	2 to 20	2,000	Navigable.
Albermarle	55	4 to 15	600	Navigable but rather shallow.
Pamlico	75	25	1,500	Navigable.
Puget's	75	10		Deep.
Vineyard	20	5	90	Deep.
Nantucket	50	45	2,000	Dangerous.
Norton	200			

7. The following is a list of the principal islands :

Name.	Length. Miles.	Breadth. Miles.	Area. Sq. Miles.	Population.	Remarks.
Long	110	2 to 20	1,680	541,000	Numerous light houses.
Martha's Vineyard	16	3 to 4	48	4,123	A favorite summer resort.
Nantucket	22	6			A summer resort.
Dry Tortugas . .	They	are 10 in	number,	and con	tain a fort and lighthouse.
Santa Barbara . .	They	are 8 in	number,	and utter	ly barren.
Drummond	20	10			Contains a British fort.
St. Lawrence . . .	80	30	2,000		Inhabited by Esquimaux.
Baranoff	73	15			Coal has been found on it.
Aleutian	150	in num	ber.	2,000	Mountains or volcanic.

PENINSULAS.

8. Florida is the largest and most important peninsula. Others are Upper and Lower Michigan, Cape Cod, East Maryland and Alaska.

SURFACE.

9. From a general view of the United States, as presented by the map, we perceive that it is divided into three physical sections—the Atlantic slope, the Pacific slope and the Great Valley of the Mississippi.

The Atlantic slope is from 50 to 300 miles wide, and contains over 300,000 square miles. West of the Appalachian mountains the country is generally level, with few exceptions, until we reach the Rocky mountains. From this to the Pacific the country consists of lofty plains, crossed by great mountain ranges.

MOUNTAIN RANGES.

There are two great mountain systems in the United States, each of which throws off numerous spurs.

10. The Appalachian system is in the east, and the Rocky, with the numerous branches, in the west. The following table exhibits the principal ranges, with their height.

Appalachian, mean height	3,000 to 4,000 feet.
Rocky, mean height	10,000 to 12,000 feet.
Sierra Nevada	8,000 to 10,000 feet.
Coast	3,000 feet.
Cascade	8,000 to 12,000 feet.

MOUNTAIN PEAKS.

11. The following is a list of the principal peaks:

Name.	Height.	Name.	Height.
Pike's Peak	14,147 feet.	Whitney	15,000 feet.
Long's Peak	14,271 "	Shasta	14,440 "
Spanish Peak	11,000 "	Hood	11,200 "
Fremont's Peak	13,700 "	St. Helens	9,550 "
St. Elias	19,500 "	Washington	6,280 "
Fairweather	15,500 "	Katahdin	5,385 "
Marcy	5,403 "	Peaks of Otter	4,000 "

PLAINS, PLATEAUS, ETC.

12. Some of these have already been described. The most productive and largest is the *Mississippi Valley*, containing nearly two-thirds of the territory of the United States. It is one of the most fertile tracts in the world, and is supposed to be capable of sustaining a population of 500,000,000. The Great Basin lying between the Wasatch and the Sierra Nevada is an extensive barren region, from 4,000 to 6,000 feet high, and embracing an area of 210,000 square miles. The *Colorado Plateau* lies between the Rocky and the Wasatch mountains; it is the highest plain in the United States, having an elevation from 6,000 to 7,000 feet.

NATURAL CURIOSITIES.

13. The United States abounds in the romantic and sublime in nature. The most stupendous cataracts, the most beautiful landscapes, the most gigantic plains, some of the most colossal peaks, and the grandest caverns are contained within her boundaries.

Mammoth Cave, the largest in the world, near Green river, Kentucky, has been explored ten miles. About twenty rooms have been discovered, and here are found subterranean streams, waterfalls, and pits of unknown depth. Several of the rooms are of great extent and have received appropriate names.

The Haunted Chamber is two miles long, twenty feet high, and ten feet wide, the roof being supported by beautiful pillars. One apartment is assigned

to the evil spirit, where he has a dining hall, forging-shop, etc. In one place there is a considerable stream, in which there is a species of fish without eyes.

The *Falls of Niagara*, which are partly in New York, form the most stupendous cataract in the world.

They are divided by Goat island into two divisions; the American side is about 1,000 feet wide, and the Canadian 2,000, and both plunge over rocks to the depth of 162 feet. The shock causes the earth to tremble for a considerable distance around, and a cloud of vapor rises over the spot, which is sometimes visible for sixty or seventy miles.

The Natural Bridge, in Rockbridge county, Virginia, is sometimes called the "Eighth Wonder of the World." It spans a deep chasm, through which flows Cedar creek, and is ninety feet long, sixty feet wide and 240 feet above the water. A public road passes over it. In addition to the bridge itself the scenery surrounding it is exceedingly interesting.

LAKES.

14. The lakes of the United States form a grand feature of our continent, and present the extraordinary spectacle of inland seas of fresh water, sufficient in extent to become the scene of battles between hostile navies, and highways of busy and thriving commerce. The following are the principal:

Name.	Length. Miles.	Breadth. Miles.	Area. Sq. miles.	Depth. Feet.	Height above sea-level in feet.
Superior	430		32,000	1,000	603
Michigan	320		22,000	1,000	582
Huron	280	105	21,000	800	582
Erie	250	58	9,600	204	573
Ontario	190	55	6,300	600	250
Great Salt . . .	90	20 to 30	2,600	60	4,200
Champlain . . .	100	1 to 14	600	600	93
St. Clair	30	24	360	20	571
Lake of the Woods	100				977

RIVERS.

15. The United States is one of the finest watered countries on the globe. It contains about 50,000 miles of river navigation, of which 40,000 are afforded by the vast Mississippi system. This is the longest river in the world, and contains 1,500 navigable tributaries. It drains more than one-third of the area of the United States.

Name.	Length. Miles.	Area of Basin. Sq. miles.	Miles of Navigation.
Mississippi	4,200	1,197,000	2,200, to St. Paul.
Mississippi proper	3,100		
Missouri	2,900	518,000	2,600, to Fort Benton.
Arkansas	1,500	189,000	650, to Fort Smith.
Red	1,200	97,000	350, to Shreveport.
Ohio	950	214,000	950, to Pittsburgh.
Hudson	350	12,000	160, to Troy.
Potomac	400		110, to Washington.
Delaware	350	11,000	75, to Trenton.
Savannah	550	10,000	230, to Augusta, 130 further by small boats.
Mobile	45		45.
Colorado	1,050	223,000	500.
Rio Grande	1,800	240,000	500, for small boats.
Sacramento	350		250, to Red Bluff.
Columbia	1,400	338,000	115, to Vancouver.
Yukon	2,000	200,000	1,500, through the Rocky Mountains.

SOIL.

16. This is greatly diversified. Some portions are barren, but the greater part is highly prolific. In the north-east the soil is better adapted to grazing than to tilling. The Mississippi Valley, as has been said, is one of extreme fertility. That portion lying between the Rocky mountains and the Sierra Nevada is the most desolate region in the United States, though in many parts of this good crops may be obtained by irrigation. Much of the eastern slope of the Rocky mountains, known as the "Great Plains," has a poor soil; it is, however, well adapted to grazing.

CLIMATE.

17. Reaching through twenty-five degrees of latitude, the climate is greatly varied. In the north the cold of winter is extreme, this season lasting five months. The coldest place is said to be Pembina.

The average annual temperature varies from 76° in southern Florida to 36° in north-west Minnesota. It is much warmer on the Pacific slope than in corresponding latitudes on the Atlantic slope, owing to the warm winds from the ocean current sweeping along the western shore. The climate of the western plateaus is dry and changeable, caused by the absence of moisture. Often at noon the temperature is 70° or 80° above zero, and sinks below the freezing point during the night. Along the southern and south-eastern coasts the climate during the heated term is unhealthy; but generally the climate of the United States is as favorable to health and longevity as that of any other part of the world.

The greatest rain-fall occurs in western Oregon, about eighty inches annually; the least in southern California, where on an average twenty inches falls each year. In the Mississippi Valley the average annual rain-fall is from twenty-four to fifty inches.

AGRICULTURAL PRODUCTIONS.

18. The leading agricultural productions are wheat, oats, corn, potatoes, cattle, sheep, hogs, from the central states; hay, corn, rye, barley, oats, cattle, sheep, from the north-eastern states; cotton, corn, rice, tobacco, hemp, oranges, lemons, from the southern states; wheat, fruit, cattle, from the western states.

MINERALS.

19. The United States is exceedingly rich in minerals of almost all kinds. Gold and silver are found in large quantities in nearly all the western states and territories. Iron is common to most parts; coal exists in greater quantities than in any other country. Tennessee and the New England States yield large quantities of marble and granite. The lead regions are literally inexhaustible; the first embracing an extensive territory at the junction of the three states, Illinois, Iowa, and Wisconsin; the second covering an area of 3,000 square miles in Missouri, a little south-west of St. Louis. Other minerals are copper, zinc, salt, nickel, quicksilver, petroleum, etc.

MANUFACTURES.

20. These are important and of great variety. As a manufacturing nation it ranks first in the world, the value of the products in 1880 being \$5,370,000,000. New York, Pennsylvania, Massachusetts, Illinois, and Ohio rank as the first states in this branch of industry.

The leading articles are agricultural implements, boots and shoes, clothing, cotton and woolen goods, liquors, distilled and malt, soap and candles, iron wares, flour, sugar and molasses, prepared tobacco, etc.

COMMERCE.

21. The value of our commerce during the year 1880 was \$1,504,000,000, of which \$835,639,000 were exports, and \$667,955,000 imports, being next to Great Britain, the most extensive in the world. There are ninety-three seaports in the United States, and in amount of commerce the leading ones rank as follows: New York, Boston, New Orleans, San Francisco, Philadelphia, Baltimore, Galveston, and Savannah.

About fifty-seven per cent. of all the commerce of our country is conducted through the port of New York. The whole number of vessels employed is about 25,000. Besides the foreign commerce there is an immense inland trade carried on by means of the numerous railroads, canals, rivers, and lakes.

The exports are mainly bread-stuffs, raw cotton, provisions, mineral oils, tobacco, cotton goods, cattle, tallow, furs, leather, sugar; imports, cotton, woolen, linen, silk goods, iron and steel manufactures, fancy goods, jewelry, precious stones, sugar, molasses, and cigars.

22. *Natural Advantages { 1st. For Agriculture.
2d. For Commerce.
3d. For Manufacturing.

The pupil should be required to state the natural advantages of the United States.

INTERNAL IMPROVEMENTS.

23. Canals are numerous, and railroads cross the country in every direction. At present there are 139,000 miles of railway completed, being nearly equal to that of all Europe, and 170,000 miles of telegraph lines.

The National Road, built by the general government, extends from Cumberland, in Maryland, westward, crossing the states of Pennsylvania, Ohio, Indiana, to Missouri. The public roads, in general, are good, and bridges, many of which are costly and elegant, cross the principal streams.

ANIMALS.

24. The wild animals are no longer numerous in the older settled regions; the fox, wolf, wild-cat, panther, grizzly and other varieties of bears are found in the uncultivated regions. Crocodiles, alligators, and other serpents are found in southern waters.

The horse, cow, sheep, hog, mule, goat and the common barn-yard fowls, except the turkey, are not indigenous, but were brought from the old world by the first settlers.

INHABITANTS.

25. The inhabitants of the United States are composed chiefly of immigrants from Europe and their descendants. The aborigines are fast disappearing before the onward march of the white man. There are many negroes in the southern states, who were formerly in a state of slavery but are now all free; they number about two-fifths of the population of this section.

26. *Population.*—The whole number of inhabitants by the last census (1880) was 50,152,866; of these 6,577,000 were colored, and 105,000 Chinese. There are besides 300,000 Indians not included in these figures.

*See Page 79, Article 9.

CENSUS OF THE UNITED STATES, 1880.

States.	Total Pop	White.	Colored.	Native.	Foreign.	Males.	Females.
Alabama	1,262,794	662,328	600,249	1,253,121	9,763	622,890	639,904
Arizona	40,441	35,178	138	24,419	16,022	28,802	12,239
Arkansas	802,564	591,611	210,621	792,269	10,295	416,383	386,181
California	864,686	767,266	6,168	572,006	293,680	518,271	346,415
Colorado	194,649	191,452	2,459	154,869	39,780	129,471	65,178
Connecticut	622,683	610,884	11,428	492,879	129,804	305,886	316,797
Dakota	135,180	133,177	381	83,387	51,793	82,302	52,818
Delaware	146,654	120,198	26,450	137,182	9,472	74,153	72,501
District of Columbia	177,008	118,236	59,378	160,523	17,115	83,594	94,044
Florida	267,351	141,832	125,464	257,631	9,720	135,393	131,958
Georgia	1,539,048	814,251	724,685	1,528,722	10,315	761,184	777,864
Idaho	32,611	29,011	58	22,620	9,982	21,818	10,793
Illinois	3,078,769	303,174	46,248	2,495,177	583,592	1,587,433	1,491,336
Indiana	1,978,362	1,909,094	38,998	1,843,597	143,765	1,010,676	967,686
Iowa	1,624,620	1,614,078	9,443	1,363,132	261,488	848,234	776,386
Kansas	995,966	952,056	43,096	886,261	109,705	536,725	459,241
Kentucky	1,648,708	1,377,187	217,461	1,589,237	59,471	831,676	816,032
Louisiana	949,103	455,007	483,794	885,964	54,139	468,833	471,270
Maine	648,945	646,903	1,418	590,076	58,869	324,084	324,816
Maryland	934,632	724,718	209,897	851,984	82,648	462,114	472,628
Massachusetts	1,783,012	1,764,004	18,411	1,339,919	443,093	858,475	924,538
Michigan	1,636,331	1,614,078	14,986	1,247,985	388,346	862,376	774,055
Minnesota	780,806	776,940	1,553	513,107	267,699	419,262	361,544
Mississippi	1,131,592	479,371	650,337	1,122,424	9,168	507,137	554,445
Missouri	2,168,804	2,023,568	145,046	1,957,564	211,240	1,127,424	1,041,380
Montana	39,157	35,446	288	27,642	11,515	28,180	10,977
Nebraska	452,433	449,806	2,376	355,043	97,390	249,275	203,158
Nevada	62,265	53,574	465	36,623	25,642	42,113	20,252
New Hampshire	346,984	346,264	646	300,961	46,023	170,575	176,409
New Jersey	1,130,983	1,091,947	38,796	909,398	221,587	559,823	571,160
New Mexico	118,430	108,127	648	108,498	9,832	63,751	54,679
New York	5,083,810	5,017,116	64,969	3,872,372	1,211,438	2,506,283	2,477,527
North Carolina	1,400,047	867,478	531,351	1,396,368	3,679	688,203	711,844
Ohio	3,198,239	3,118,344	79,693	2,803,496	394,743	1,614,167	1,584,071
Oregon	174,767	163,087	486	144,327	30,444	103,388	71,379
Pennsylvania	4,282,786	4,197,106	85,342	3,692,253	587,533	2,136,632	2,146,151
Rhode Island	276,528	269,903	6,503	202,598	73,930	103,388	143,405
South Carolina	995,622	391,224	604,275	987,981	7,641	490,469	505,153
Tennessee	1,542,463	1,139,120	402,991	1,525,981	16,582	769,374	773,089
Texas	1,592,574	1,197,499	394,001	1,478,058	114,516	838,715	753,855
Utah	143,906	142,380	204	99,974	43,932	74,470	69,436
Vermont	332,286	331,243	1,032	291,340	40,946	166,888	165,398
Virginia	1,512,806	880,981	631,573	1,498,139	14,667	745,839	766,967
Washington	675,120	67,349	375	59,259	15,861	45,977	29,143
West Virginia	618,443	592,606	24,806	600,214	18,228	314,479	303,064
Wisconsin	1,315,480	1,309,622	2,784	910,063	405,417	680,416	635,374
Wyoming	20,776	19,436	299	14,943	5,845	14,151	6,637
Total	50,152,866	43,404,876	6,577,151	43,475,506	6,677,360	25,552,582	24,632,284

OCCUPATION.

27. Nearly one-half of the inhabitants are engaged in agriculture. Manufacturing, mining, and commerce employ many thousands of men and women. Everybody, as a rule, is engaged in some useful occupation, and beggars, so common in Oriental countries, are rarely seen.

LANGUAGE.

28. The English is the prevailing language everywhere, but in many parts there is a large intermixture of Germans who still use their

native tongue. In Louisiana the French language is spoken to some extent, and in the territory acquired of Mexico the Spanish is used.

GOVERNMENT.

29. The government of the United States is a federal republic, composed of thirty-eight states, ten territories and the District of Columbia. Each state is independent in its local affairs, and its government is patterned after that of the general government.

The government of the United States having been treated under the chapter on government, it will not be necessary to repeat it here.

EDUCATION.

30. This great instrument of human improvement is highly appreciated, and national education is regarded, in all the states, as an object of first consideration. A system of free schools exists in all states, and colleges and seminaries are more numerous than in any other part of the world.

RELIGION.

31. All religions are tolerated in the United States, and every person is at liberty to worship God according to the dictates of his own conscience. The most numerous persuasions are the Baptists, Methodists, Presbyterians, and Congregationalists. There are also many Roman Catholics, Episcopalians, Universalists, Lutherans, Moravians, etc., to which may be added the sect called the Mormons.

STATISTICS.

Denomination.	Members.	Ministers.
Methodists.	3,800,000	35,000
Baptists	2,389,000	17,160
Presbyterians	581,000	5,100
Congregationalists	384,000	3,580
Lutherans	738,000	3,300
Roman Catholics	1,000,000	4,000
Disciples of Christ.	600,000	8,500
Episcopal Protestant.	345,000	3,400
Mormon	100,000	175
Jews.	300,000	175

CITIES.

32. These are already numerous and some of them among the most populous in the world. The following is a list of the leading cities of the United States, with their population to the nearest thousand, according to the last census, 1880:

Name.	Population.	Name.	Population.
New York	1,206,000	Columbus	52,000
Philadelphia	847,000	Patterson	51,000
Brooklyn	567,000	Toledo	50,000
Chicago	503,000	Charleston	50,000
Boston	370,000	Fall River	49,000
St. Louis	351,000	Minneapolis	47,000
Baltimore	332,000	Scranton	46,000
Cincinnati	256,000	Nashville	43,000
San Francisco	234,000	Reading	43,000
New Orleans	216,000	Hartford	43,000
Cleveland	160,000	Wilmington	43,000
Pittsburgh	156,000	Camden	42,000
Buffalo	155,000	St. Paul	41,000
Washington	147,000	Lawrence	39,000
Newark	136,000	Dayton	39,000
Louisville	124,000	Lynn	38,000
Jersey City	121,000	Atlanta	37,000
Detroit	116,000	Denver	36,000
Milwaukee	116,000	Oakland	35,000
Providence	105,000	Utica	34,000
Albany	91,000	Portland	34,000
Rochester	89,000	Memphis	34,000
Alleghany	79,000	Springfield	33,000
Indianapolis	75,000	Manchester	33,000
Richmond	64,000	St. Joseph	32,000
New Haven	63,000	Grand Rapids	32,000
Lowell	59,000	Wheeling	31,000
Worcester	58,000	Mobile	31,000
Troy	57,000	Hoboken	31,000
Kansas City	56,000	Harrisburg	31,000
Cambridge	53,900	Savannah	31,000
Syracuse	52,000	Omaha	31,000

HISTORY.

DISCOVERIES.

1. In the year 1498 Sebastian Cabot, an Italian in the employ of England, discovered Virginia. In 1524 Verrazzano, also an Italian, sent out by France, discovered the coast of North Carolina. He landed also near New York, and at New Port. In 1528 Narvaez, a Spaniard, discovered and took possession of Florida, in behalf of the king of Spain. The Hudson river was discovered by Henry Hudson, an English navigator, sent hither by some Dutch speculators.

SETTLEMENTS.

2. Various attempts were made to affect settlements in this quarter, but they all proved unsuccessful till 1607. At that time about 100 persons arrived from England and founded the colony of Jamestown in Virginia. This was the first English settlement within the United States. New York was settled by the Dutch in 1614; Massachusetts by the Puritans in 1620; Rhode Island by Roger Williams in 1636, and Connecticut at the same time; Georgia, the last of the thirteen original colonies, was settled in 1732.

ORIGIN OF THE UNITED STATES.

3. The United States had their origin in the thirteen original colonies, which combined in 1775 against their mother country, and after a desperate

struggle of eight years, achieved their independence. The first battle of the Revolutionary war was fought at Lexington, Mass., April 19, 1775, where the enemy received a signal defeat.

CAUSES OF THE REVOLUTION.

4. About the year 1764 the British government began to impose severe and oppressive taxes upon the English colonies. The people remonstrated, and sent petitions to both parliament and king, but without effect.

THROWING OVERBOARD THE TEA, ETC.

5. In 1773 the people being angry at the tax imposed upon tea, refused to let that article be landed from the British ships. In Boston a party of men, disguised as Indians, went on board some vessels in the harbor, and emptied three hundred and forty chests into the water. The port of Boston was now closed by British parliament. This act brought on a crisis, and the colonies prepared for war.

CLOSE OF THE WAR.

6. On October 19, 1781, Gen. Cornwallis, the British commander, surrendered to Gen. Washington, at Yorktown. After this event there was little fighting on either side. In November, 1782, preliminary articles were signed at Paris between the agents of Great Britain and America, which recognized the United States as a free, sovereign, and independent nation.

THE CONSTITUTION.

7. Until the adoption of the present constitution the government was administered under the Articles of Confederation, but this system was found imperfect and insufficient. A convention was therefore called, which met at Philadelphia, in May, 1787, and, after a session of four months, they formed and recommended to the people the present excellent constitution. This was adopted by the states, and George Washington was elected first President of the Union.

OTHER EVENTS OF OUR HISTORY.

8. In the year 1800 the seat of government was removed from Philadelphia to Washington, which has since been the capital of the United States. In April, 1803, an immense territory called Louisiana, was purchased of France for \$15,000,000. On the 18th of June, 1812, Congress declared war against Great Britain, which lasted about eighteen months, and the British Lion had to yield a second time to American valor.

Immediately after this war our government deemed it necessary to send a squadron into the Mediterranean to chastise Algiers and the other Barbary States, which had committed piracies upon our commerce.

In 1818 Florida was obtained by treaty from Spain. La Fayette, a brave and generous Frenchman, who had served in our armies during the Revolution, visited our country in 1824, and was everywhere received with acclamations of welcome by the people.

During James K. Polk's administration war was waged with Mexico, which commenced in 1846, and ended in 1848; and the extensive territories of New Mexico, Arizona, California, and some other portions of land, were ceded to the United States. The annexation of Texas in 1845 was the immediate cause of the war.

In the winter of 1861 the war of the Rebellion broke out and continued for four years. Slavery, which was the cause of the war, was abolished.

Abraham Lincoln was assassinated on the 14th day of April, 1865, and on the 2d of July, 1881, James A. Garfield met a similar fate, two of our most beloved Presidents.

NEW ENGLAND STATES.

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PRESIDENTS OF THE UNITED STATES.

George Washington	1789 to 1797—8 years.
John Adams	1797 to 1801—4 years.
Thomas Jefferson	1801 to 1809—8 years.
James Madison	1809 to 1817—8 years.
James Monroe	1817 to 1825—8 years.
John Quincy Adams	1825 to 1829—4 years.
Andrew Jackson	1829 to 1837—8 years.
Martin Van Buren	1837 to 1841—4 years.
William Henry Harrison	1841 to 1 month.
John Tyler	1841 to 1845—3 yr. 11 mo.
James K. Polk	1845 to 1849—4 years.
Zachary Taylor	1849 to 1850—1 yr. 4 mo.
Millard Fillmore	1850 to 1853—2 yr. 8 mo.
Franklin Pierce	1853 to 1857—4 years.
James Buchanan	1857 to 1861—4 years.
Abraham Lincoln	1861 to 1865—4 yr. 1 mo.
Andrew Johnson	1865 to 1869—3 yr. 11 mo.
Ulysses S. Grant	1869 to 1877—8 years.
Rutherford B. Hayes	1877 to 1881—4 years.
James A. Garfield	1881 to 6 months.
Chester A. Arthur	1881 to 1885—3 yr. 6 mo.
Grover Cleveland	1885, present incumbent.

STATISTICS OF PRODUCTS 1880.

Products.	Leading States in Order.
Wheat, bushels, 460,000,000 . . .	Ill., Ind., O., Mich., Minn.
Barley, " 44,000,000 . . .	Col., N. Y., Wis., Ia., Minn.
Buckwheat, " 12,000,000 . . .	N. Y., Pa., N. J., Mich., Md.
Corn, " 1,756,000,000 . . .	Ill., Ia., Mo., Ind.
Oats, " 408,000,000 . . .	Ill., Ia., N. Y., Pa., Wis.
Rye, " 20,000,000 . . .	Pa., Ill., N. Y., Wis., Ind.
Cotton, bales, 6,589,000 . . .	Ga., Ala., Tex., Miss., S. C.
Sugar Cane, acres, 228,000 . . .	La., Ga., Tex., Fla., Ala.
Tobacco, acres, 539,000; lbs, 473,000,000 . . .	Ky., Va., Pa., O., Tenn.
Rice, pounds, 110,131,000 . . .	S. C., Ga., La., N. C., Miss.
Bituminous Coal, tons, 41,000,000 . . .	Pa., Ill., O., Md., W. Va.
Sugar, hogsheads, 179,000 . . .	La., Tex., Fla., Ga., S. C.
Molasses, gallons, 16,573 . . .	La., Ga., Fl., Tex., Ala.
Gold, total product, \$36,000,000 . . .	Cal., Nev., Dak., Col., Mont.
Silver, " " \$37,700,000 . . .	Col., Nev., W. Ter., Mont., Ara.

CHAPTER IV.

NEW ENGLAND STATES.

MAP EXERCISES.

Locate the following:

CAPES.

Cod, Ann, Elizabeth.

BAYS.

Massachusetts, Cape Cod, Buzzard's, Narragansett, Quohog, Casco, Penobscot, Isle au Haut, Blue Hill, Frenchman's, Machias, Passamaquoddy.

SOUNDS.

Nantucket, Vineyard, Long Island.

ISLANDS.

Block, Rhode Island, Nantucket, Martha's Vineyard, Mt. Desert, Deer, Swans, Elizabeth.

PENINSULAS.

Cape Cod.

MOUNTAIN RANGES.

Green, White, Hoosac, Taconic, Height of Land.

MOUNTAIN PEAKS.

Washington, Adams, Mars Hill, Katahdin, Sunapee, Monadnock, Kersarge, Mansfield, Camel's Hump, Holly, Ascutney, Killington, Tom, Holyoke, Wachusett.

LAKES.

Moosehead, Chesuncook, Milinokett, Chamberlain, Grand, Schoodic, Moosetockmaguntic, Umbagog, Sebago, Squam, Winnipiseogee, Memphremagog, Champlain.

RIVERS.

St. John, St. Croix, Penobscot, Kennebec, Androscoggin, Saco, Piscataqua, Merrimac, Thames, Connecticut, Housatonic, Onion, Lamoille.

CITIES.

Augusta, Portland, Bangor, Bath, Brunswick, Saco, Eastport, Concord, Portsmouth, Manchester, Nashua, Hanover, Montpelier, Burlington, Rutland, Boston, Cambridge, Plymouth, Lowell, Lawrence, Springfield, Worcester, Lynn, Salem, Taunton, New Bedford, Providence, Newport, Hartford, New Haven, New London, Stonington, Bridgeport, Stamford.

RELATIVE POSITION.

In what direction is Boston from Hartford? from Providence? Worcester? Burlington? Concord? Augusta? Cape Cod? Cape Ann?

TRAVELS.

Trace a water route from Boston to Providence; to Hartford; Burlington; Concord; Bangor; Quebec; Buffalo.

MISCELLANEOUS.

What is the latitude of each of the capitals? the longitude of the same? By the scale of miles, what is the distance of Portland from Cincinnati? from Montpelier? Albany? Quebec? What is the difference of time between Boston and Bangor? Boston and Albany? Bound each of the New England States.

DESCRIPTION.

POLITICAL DIVISIONS.

States.	Number of Counties.	States.	Number of Counties.
Maine	16	Massachusetts	14
New Hampshire	10	Rhode Island	5
Vermont	14	Connecticut	8

POSITION.

2. The New England States occupy the north-eastern portion of the United States, and are bounded on the north by the Dominion of Canada; on the east by New Brunswick and the Atlantic ocean; on the south by the Atlantic and Long Island sound; and on the west by New York and Quebec.

LATITUDE AND LONGITUDE.

3. They lie between 41° and $47\frac{1}{2}^{\circ}$ north latitude and between 67° and $73\frac{1}{2}^{\circ}$ west longitude.

EXTENT.

States.	Abbreviations.	Gross Area. Sq. Miles.	Water Surface. Sq. Miles.	Land Surface. Sq. miles.	Size as compared with Ohio.
Maine	Me.	33,040	3,145	29,895	$\frac{3}{4}$
New Hampshire	N. H.	9,305	300	9,005	$\frac{1}{4}$
Vermont	Vt.	9,565	430	9,135	$\frac{1}{4}$
Massachusetts	Mass.	8,315	275	8,040	1-5
Rhode Island	R. I.	1,250	165	1,085	1-40
Connecticut	Ct.	4,990	145	4,815	$\frac{1}{8}$

5. The following is a table of distances from Boston :

Quebec	400 miles.	Portland	110 miles.
Montreal	300 "	Concord	65 "
Houlton	350 "	Montpelier	160 "
Calias	340 "	Hartford	100 "
Bangor	230 "	New Haven	134 "
Augusta	163 "	Providence	40 "

CHARACTERISTICS.

6. These states have thus been characterized:

New England hath a climate cold,
 A rugged soil and mountains bold;
 But yet her hills are tilled with care,
 Her villages are bright and fair.
 The church's spire decks every scene,
 The school-house every village green,
 While busy factories ply the wheel,
 And commerce speeds the adventurous keel.
 The fisherman defies the gale;
 The bold harpooner strikes the whale;
 The hunter roams the forest track;
 And each his gathered spoil brings back
 To Yankee Land, his cherished home,
 Blest with his store, no more to roam.

COAST.

7. This is much indented by numerous bays, furnishing many miles of navigable waters, and great facilities for commerce. Maine stretches from north-east to south-west 200 miles; but, including the indentations, presents a shore line of 2,500 miles, and because of her numerous inlets is called "hundred harbored Maine." Massachusetts bay is the scene of active shipping enterprise.

Buzzard's bay, on the southern coast of Massachusetts, is thirty miles long and from five to ten miles wide, and contains a number of good harbors.

Narragansett bay, which divides Rhode Island, is twenty-eight miles long and from two to twelve wide; it encloses numerous pretty islands.

Penobscot bay, thirty-five miles long and twenty wide, encloses numerous islands and affords good harbors.

ISLANDS.

8. *Martha's Vineyard* and *Nantucket* are the largest islands; they have a sandy soil. *Mount Desert*, south of Maine, is noted for its beautiful scenery, and is a favorite summer resort. *Rhode Island*, in the southern part of Narragansett bay, is noted for its beauty and extreme fertility. During the "fashionable season" the southern part of this island is crowded with visitors. It is called the "Eden of America;" is fifteen miles long, three to three and one-half wide, and contains nearly fifty square miles.

The *Elizabeth* islands are sixteen small islands, south of Buzzard's bay. They are noted for their beauty, delightful summer climate, and rare opportunities for fishing, as well as their historical interest

SURFACE.

9. This is greatly diversified. In the interior it is mountainous, with narrow vales between. The land along the sea-shore presents an irregular surface of hills and ridges, with flats of moderate extent.

The numerous lakes and ponds of New England form a charming feature of the scenery.

MOUNTAIN RANGES.

10. These states are crossed along the western boundary by the *Green Mountain* range. The *Taconic* and *Hoosac* ranges trend across the western part of Massachusetts. The latter is noted for the celebrated *Hoosac* tunnel, about five miles long, on the Boston and Albany railroad.

MOUNTAIN PEAKS.

11. The following are the principal peaks:

Name.	Height—ft.	Name.	Height—ft.
Mars Hill	2,000	Mansfield	4,430
Katahdin	5,385	Killington	4,221
Washington	6,288	Camel's Hump	4,188
Adams	5,794	Saddle	3,500
Jefferson	5,714	Wachusett	2,000

VALLEYS.

12. The *Connecticut* valley is the most extensive and fertile in New England. The valley of the *Merrimac* consists of sandy plains, covered with pines. Some of the river valleys of Maine are broad, except near the sea. The *Atlantic Coast Plain* is from fifty to seventy-five miles wide.

NATURAL CURIOSITIES.

13. The mountains, waterfalls, wild forests, and myriads of lakes, and cool summer climate, make Maine an attractive place for tourists. The bold and rugged coast and picturesque islands are well known to artists.

New Hampshire, on account of its beautiful scenery, is called the "Switzerland of America." The *White Mountains* and vicinity are especially characterized.

Vermont and Massachusetts are noted for their beautiful scenery. From *Mount Wachusett* a fine view is presented. *Tom*, *Holyoke*, and *Saddle* peaks are well known summer resorts. The *Ice Hole*, a narrow and deep ravine of great wildness, at Stockbridge, in Berkshire county, is a place where the ice remains during the whole year.

In New Marlborough there is a rock of thirty or forty tons weight, so nicely balanced that it can be moved with a finger.

The *White Mountains* are approached through a deep gorge two miles long, and in the narrowest place but twenty-two feet wide. It is called the *Notch*, and the *Saco* river flows through it. It is a place of singular wildness.

Near Franconia is a peak called the *Profile Mountain*, 1,000 feet high. A side view exhibits the gigantic profile of a human face.

From the summit of nearly every peak in Maine are presented scenes of surpassing grandeur.

Vermont is famed for its numerous rapids and cascades of exceeding loveliness. It is said that one of the most beautiful panoramas of the United States is to be witnessed from the cupola of the Vermont University.

LAKES.

14. The following lists contains the principal lakes :

Name.	Length. Miles.	Breadth. Miles.	Remarks.
Moosehead	35	10	Deep and navigable. On the west side is Mt. Kineo, 1,200 feet high.
Chesuncook . .	20	2	Contains some fine scenery.
Memphremagog	30	1 to 4	It is much visited by tourists.
Winnipiseogee .	22		Deep, and surrounded by very beautiful mountain scenery.
Umbagog . . .	12	1 to 4	Drained by the Androscoggin river.
Champlain . .	100	1 to 14	600 feet deep, and remarkable for grand and beautiful scenery; covers 600 square miles.
Schoodic . . .			A series of lakes in the south-eastern part.
Sebago	12	8	Empties its waters into Casco Bay.
Grand	25	4	Contains excellent salmon and trout.

Maine is said to contain no less than 1,700 lakes, each having an area greater than one square mile.

RIVERS.

15. One remarkable feature of the New England States is the number of streams of water. They are navigable throughout the tide-water section. Nearly all afford valuable water power. It is said no other river in the world drives as many factories and mills as the Merrimac. The scenery along the rivers in many instances is extremely picturesque.

Rivers.	Length. Miles.	Area Basin. Sq. Miles.	Miles of Navigation.
Connecticut	350	10,600	60, to Hartford.
Merrimac	150		12, to Haverhill.
Penobscot	300		60, to Bangor.
Kennebec	200		81, to Waterville.
St. Croix	125		20, to St. Stephen.

SOIL.

16. Much of the soil is good, yet it requires diligent cultivation to procure good crops. The river valleys are fertile. The eastern part of Massachusetts has a sandy and stony soil, and is not at all adapted to profitable farming.

CLIMATE.

17. The climate is severe, and it is necessary to make careful preparations for the long winters. North of the 45th parallel little can be produced from the soil on account of the rigid cold. The indifference of the soil and the severity of the climate have compelled the people to be industrious, frugal, and enterprising.

AGRICULTURAL PRODUCTIONS.

18. The leading product of agriculture in New England is grass, for grazing and hay; besides this, wheat, Indian corn, oats, barley, potatoes, etc., are produced in considerable quantities, but not nearly enough to supply home consumption. Horses, cattle, sheep, and hogs are raised in great numbers. The chief fruits are apples, pears, peaches, plums, strawberries, currants, cranberries, etc.; the low lands of Cape Cod peninsula are used almost exclusively for the culture of cranberries.

MINERALS.

19. Iron is abundant in Connecticut, Vermont and Maine. Copper and zinc are found in various places, chiefly in Vermont and Connecticut. Coal exists, but in limited quantities and of inferior quality.

Granite, marble, and limestone are scattered profusely over almost this entire section; the former exists in such quantities in New Hampshire that it is called the "Granite State." Oil-stone and slate-stone, as well as stone from which grind-stones are made, are found at various points.

MANUFACTURES.

20. These are varied and of great value. They consist chiefly of cotton goods, woolen goods, furniture, wooden-ware, leather, boots and shoes, paper and paper articles, fire arms, musical instruments, hardware, machinery, clocks and watches, ships, maple sugar, butter, cheese, etc.

COMMERCE.

21. The commerce of the New England States is very extensive; Boston is the leading port. The exports are grains, cattle, flour, beef, pork, ice, granite, and manufactured goods; the imports are wool, hides, rags, European wares, tropical fruits, fish, firewood, coal, eggs, gypsum, potatoes, wheat, flour, etc. Massachusetts ranks as the fourth state in the value of her commerce.

INTERNAL IMPROVEMENTS.

22. Many important railway lines run in all directions. Massachusetts has more lines of railway, in proportion to her area, than any other state in the Union. Public buildings of all kinds are numerous, and many of them costly and elegant.

"Cape Cod Ship Canal" was commenced in 1881, and when completed will cost \$10,000,000. It is eight miles long, and connects Buzzard's bay with Cape Cod bay. The distance between Boston and New York will be shortened about 100 miles.

Maine	miles of Railway	1,167
New Hampshire,	" " "	893
Vermont,	" " "	869
Massachusetts,	" " "	2,278
Rhode Island,	" " "	147
Connecticut,	" " "	974
Total		6,328

ANIMALS.

23. In the wild and uninhabited parts the native animals are still to be found, viz.: the bear, deer, fox, wolf, wild-cat, raccoon, ground-hog, skunk, weasel, beaver, etc.

INHABITANTS.

24. The people of these six states are almost wholly of English descent. Their manners and customs are essentially English, though a tinge of Puritanism still lingers among them. The term Yankee, which appears, originally, to have been an imitation of the Indian's *Yangees* (English), is, in this country, applied to the people of New England. In Europe, all our people are designated by this title.

25. The population of these states is as follows:

States.	Population 1870.	Population 1880.	White.	Colored.	Population to Sq. Mile.
Maine	527,000	649,000	647,000	1,450	21½
New Hampshire .	318,000	347,000	346,000	685	38¾
Vermont	331,000	332,000	331,000	1,000	26½
Massachusetts . .	1,415,000	1,783,000	1,774,000	18,500	222
Rhode Island . .	217,000	277,000	270,000	6,500	255
Connecticut . . .	537,000	623,000	611,000	11,500	130.

OCCUPATION.

26. The coast being indented with numerous harbors, the inhabitants have, therefore, been invited to maritime enterprise. They have largely engaged in the cod, mackerel, and whale fisheries. Their manufactures, too, are numerous and on a liberal scale. Quarrying and gathering of ice are leading pursuits.

Thus industry has conquered the obstacles of nature and climate, and scattered wealth and plenty over a region of comparative sterility. Though the soil in most parts is naturally poor, it has been enriched by careful cultivation, and the traveler can hardly find in any land a people living in a state of equal comfort. If there are not many who are very rich, there are few who are poor.

LANGUAGE.

27. The English has always been the language of the people, with little intermixture of foreign tongues.

EDUCATION.

28. New England has long been celebrated for its colleges and schools. Every person has the means of obtaining a good English education; and very few natives of the soil are unable to read and write with facility.

The following is a list of the leading colleges, with statistics from the latest authority :

Name.	Location.	Denomination.	Students.	Vols. in Library.	Founded.
Harvard	Cambridge, Mass.	None	637	134,000	1638
Yale	New Haven, Conn.	Congregational	517	86,000	1700
Brown University	Providence, R. I.	Baptist	224	42,000	1765
Amherst	Amherst, Mass.	Congregational	268	28,000	1821
Wesleyan Univ'ty	Middleton, Conn.	Methodist	190	22,000	1831
Bowdoin	Brunswick, Maine	Congregational	136	35,000	1798
Williams	Williamstown, Mass.	Congregational	119	15,000	1793
Dartmouth . . .	Hanover, N. H.	Congregational	264	33,000	1770
University of Vt.	Burlington, Vt.	None	47	15,000	1801
Middleburg . . .	Middleburg, Vt.	Congregational	54	12,000	1797
Bates	Lewiston, Maine	Baptist	164	5,000	1863

RELIGION.

29. The people of this section are in a high degree moral and religious. Churches are numerous, and the Sabbath is strictly observed. Charitable societies of various kinds are common, and lyceums for lectures and public instruction are found in the principal towns, and in many villages. The temperance societies have done much toward checking the baneful use of intoxicating drinks. The leading religious sects are the Congregationalists, Baptists, and Methodists.

CITIES AND TOWNS.

30. Though the natural aspect of New England is rough and forbidding, industry and taste have dotted it over with cheerful and thriving towns and villages.

Boston is the great commercial emporium of New England. It contains many things of interest. Because of its literary institutions it is sometimes called the "Athens of America."

Lowell and *Lawrence*, on the Merrimac, are important cotton manufacturing centers. *Lynn* is noted for its manufacturing of shoes; *Springfield* for paper and firearms; *Burlington* for its lumber; *Rutland*

for its marble and manufacturing; *Portland* for its trade; *Bangor* for its commerce and ship-building.

Newport is a favorite summer resort. Its climate is commended for its mildness and equability.

Providence, the second city of New England, is delightfully situated around a little lake called "the Cove." It is the seat of Brown University, and contains one of the largest and finest hotels of the United States.

New Bedford is noted for the elegance of its private residences, and as one of the richest cities in proportion to its population of any in the Union. This city has been engaged in the whale fisheries more largely than any other city in the world, but the industry has declined somewhat.

Hartford, a neat and elegant city, is a central market for tobacco. It contains several fine libraries and numerous public institutions. It is popularly known as the "Charter Oak City."

Worcester, forty miles from Boston, is finely laid out and well built. It is a great manufacturing city, especially of boots and shoes. The wire mills are the most extensive in the world. There are many elegant public buildings; of these the union depot, court-house, and high school are prominent. Because of its numerous schools it is called the "Academic City," and from its situation, social and political influence, the "Heart of the Commonwealth."

Many towns on Long Island sound are also extensively engaged in the fisheries; among these are Stamford, Norwalk, Bridgeport, Saybrook, etc.

Population of principal cities:

Cities.	Population.	Cities.	Population
MAINE.		Cambridge	33,000
Portland	34,000	Fall River	49,000
Lewiston	19,000	Lawrence	39,000
Bangor	17,000	Lynn	38,000
Biddeford	13,000	Springfield	33,000
Auburn	10,000	Salem	28,000
Augusta	9,000	New Bedford	27,000
NEW HAMPSHIRE.		Holyoke	22,000
Manchester	33,000	RHODE ISLAND.	
Concord	14,000	Providence	105,000
Nashua	13,000	Pawtucket	19,000
Dover	13,000	Newport	16,000
Portsmouth	10,000	CONNECTICUT.	
VERMONT.		New Haven	63,000
Rutland	12,000	Hartford	43,000
Burlington	11,000	Bridgeport	29,000
St. Albans	7,000	Norwich	21,000
Montpelier	3,000	Waterbury	20,000
MASSACHUSETTS.		Meriden	18,000
Boston	370,000	Norwalk	14,000
Lowell	59,000	New Britain	14,000
Worcester	58,000		

HISTORY.

GOVERNMENT.

31. The history of New England affords many passages of deep interest. It was first settled by some English people called *Puritans*, who fled hither from religious persecutions. They landed at Plymouth December 22, 1620, and thus laid the foundation of what has since become the state of Massachusetts.

CONNECTICUT AND RHODE ISLAND.

32. The first settlements in Connecticut were made by emigrants from Massachusetts, in 1636. Roger Williams, a Baptist minister, made the first settlement in Rhode Island in this year.

The other portions of New England became gradually occupied chiefly by people from New England, or by the descendants of the earlier settlers of this quarter. Maine and New Hampshire originally were a part of Massachusetts.

INDIAN WARS.

33. For a time the colonists were at peace with the Indians; but at length war broke out. On several occasions the colonists came near being exterminated. In 1675 a celebrated chief named Philip, stirred up the savage tribes, and for three years a bloody contest was maintained. But the whites at last prevailed, and the Indians gradually disappeared from the land of their fathers.

REVOLUTIONARY WAR.

34. A century after Philip's war the Revolution commenced with the battle of Lexington, and the celebrated contest of Bunker Hill followed June 17, 1775. Throughout the conflict with Great Britain, which lasted eight years, and which resulted in the independence of the United States, the people of New England bore an active and important part.

SETTLEMENTS OF OTHER STATES.

35. The inhabitants of New England have also contributed to the settlement of more western states. A considerable portion of New York, Ohio, Indiana, and Illinois were first occupied by people from Connecticut and Massachusetts.

ORIGIN OF THE NAMES OF THE STATES.

Maine was so called as early as 1632, from Maine, in France, of which Henriette Maria, queen of England, was proprietor.

New Hampshire was the name of the territory conveyed by the Plymouth Company to Captain John Mason, by patent, November 7, 1629, with reference to the patentee, who was governor of Hampshire, in England.

Vermont was called by the inhabitants in their Declaration of Independence, January 19, 1777, from the French *verts monts* "Green Mountains."

Massachusetts was so called from Massachusetts bay, and that from a tribe of Indians in the neighborhood of Boston. The tribe is thought to have derived its name from the Blue Hills of Milton. "I have learnt," says Rogers, "that Massachusetts was so called from the Blue Hills."

Rhode Island was so called in 1664, in reference to the island of Rhodes in Narragansett bay.

Connecticut was so called from the Indian name of its principal river. Connecticut is a Mocheakannen word, signifying "long river."

CHAPTER V.

THE MIDDLE ATLANTIC STATES.

MAP EXERCISES.

Locate the following :

CAPES.

Henry, Charles, Henlopen, May, Sandy Hook, Montauk Point.

GULFS AND BAYS.

New York, Delaware, Chesapeake, Raritan, Newark.

CHANNELS AND SOUNDS.

The Narrows, East River, Long Island.

ISLANDS.

Long Island, Coney, Governor's, Staten.

MOUNTAIN RANGES.

Blue, Blue Ridge, Alleghany, Adirondack, Catskill, Cumberland, South, Chestnut Ridge, Laurel Ridge.

MOUNTAIN PEAKS.

Marcy, Peaks of Otter.

LAKES.

Champlain, George, Oneida, Skeneateles, Owasco, Cayuga, Seneca, Canandaigua, Chautauqua, Erie, Ontario, Otsego.

RIVERS.

Hudson, St. Lawrence, Black, Oswego, Genesee, Susquehanna, North Branch, South Branch, Juniata, Ohio, Alleghany, Monongahela, Great Kanawha, Big Sandy, Mohawk, Delaware, Schuylkill, Potomac, Shenandoah, Rappahannock, James, Appomattox.

CITIES.

New York, Philadelphia, Brooklyn, Baltimore, Buffalo, Washington, Rochester, Oswego, Albany, Troy, Rome, Utica, Schenectady, Syracuse, Dunkirk, Watertown, Sing Sing, Hudson, Poughkeepsie, Newburg, West Point, Harrisburg, Reading, Lancaster, Pittsburgh, Alleghany, Erie, Oil City, Scranton, Easton, Trenton, Newark, Jersey City, Patterson, Camden, Princeton, Dover, Wilmington, New Castle, Annapolis, Frederick, Hagerstown, Cumberland, Harper's Ferry,

Wheeling, Charleston, Parkersburg, *Richmond*, Fredericksburg, Norfolk, Petersburg, Charlottesville, Strasburg, Lexington, Lynchburg, Alexandria.

RELATIVE POSITION.

In what direction is Rochester from New York? from Buffalo? from Richmond? from Albany? from Baltimore? from Harrisburg? from Wheeling? from Dover? from Norfolk?

TRAVELS.

What states would you cross in traveling by land from Richmond to Erie? to Dover? to Albany? to Parkersburg?

Trace a water route from Washington to Baltimore; to Richmond; to Trenton; to Rome; to Rochester; to Warren.

MISCELLANEOUS.

What is the latitude and longitude of New York? of Philadelphia?

Give the latitude of the capital of each state. Give the longitude of the same.

What is the difference in time between New York and Washington? between Washington and Wheeling? What is the altitude of the sun at noon in New York on the 10th day of May? on the 24th of February?

DESCRIPTION.

POLITICAL DIVISIONS.

1. This section of the United States embraces New York, Pennsylvania, New Jersey, Delaware, Maryland, Virginia, West Virginia, and the District of Columbia.

POSITION.

2. The New England States and the Atlantic ocean are on the east; North Carolina and Tennessee on the south; Kentucky, Ohio, lakes Erie and Ontario on the west.

LATITUDE AND LONGITUDE.

3. The Middle States lie between $36\frac{1}{2}^{\circ}$ and 45° north, and extend from about $73\frac{1}{2}^{\circ}$ to 84° west longitude.

4. These states have thus been characterized :

The Middle States for wealth renowned,
By golden harvests yearly crowned;
Exhaustless mines within their breast,
Favorites of nature stand confessed!
Rich in themselves, still art hath made
The world pay tribute to their trade;
Rivers, canals, and railroads pour
Into their lap a golden store,
While various seas rich burdens bear,
To crowd their marts with all that's rare.

AREA OF STATES.

States.	Gross. Sq. miles.		Water. Sq. miles.	Land. Sq. miles.	Abbrevia- tions.
New York	49,170	7-6*	1,150	47,620	N. Y.
New Jersey	7,815	3-19	360	7,455	N. J.
Pennsylvania	45,215	9-8	230	44,985	Pa.
Delaware	2,050	1-21	90	1,960	Del.
Maryland	12,210	1-4	2,350	9,860	Md.
Virginia	42,450	1	2,325	40,125	Va.
West Virginia	24,780	3-5	135	24,645	W. Va.

* Relative size, Ohio being one.

COAST.

6. This is mostly low, sandy, and level. The principal bays are New York, Raritan, Delaware and Chesapeake. The Delaware river, fifty miles from its mouth, expands into a bay from ten to thirty miles wide, the navigation of which is rendered somewhat difficult by shoals.

The Atlantic shores of New Jersey, in some places, are covered with a fine, white sand, which forms delightful drives and promenades, and makes a solid floor to the sea. It is this which has made its beaches renowned sea-bathing resorts. The most celebrated are Long Branch, Cape May, and Atlantic City.

Chesapeake bay is celebrated for its fish and game. It is the most prolific oyster region of the United States. Among the fish and reptiles we may mention shad, herring, soft shell crabs, and terrapins, all prized for their delicate flavor. The much esteemed canvas-back duck haunts the marshy regions. Seines a mile long are used in fishing in the bay.

CAPES.

7. All the capes have light-houses as safeguards to the mariner. *Charles* and *Henry*, at the entrance of the Chesapeake, and *May* and *Henlopen*, at the entrance of Delaware bay, are the principal capes.

ISLANDS.

8. *Long Island* is 120 miles long and twenty wide, and is noted for its orchards and gardens. Its shores, which are much indented, are well provided with an excellent system of light-houses.

Manhattan island contains the city of New York. It is fourteen miles long and two and one-half wide. *Governor's* island is in New York harbor, and contains a fort called Columbus. *Grand* island is in the Niagara river, above the Falls.

The *Thousand Isles* are at the lower end of Lake Ontario and the head of the St Lawrence river.

There are about 1,500 of these, forming the most numerous collection of islands in the world. Many of them have been purchased by wealthy people,

who have built elegant summer residences on them. The scenery about them is grand.

Staten island, five miles south-west of New York city, is thirteen miles long and eight wide, and contains $58\frac{1}{2}$ square miles. It is diversified with beautiful scenery, and many business men of New York have built elegant mansions all over the island. It is connected with the latter by steam ferries, and contains the quarantine station of the city.

Coney island, five miles long, and one-half wide, at the entrance of New York harbor, is a popular place of summer resort.

SURFACE.

9. The *Atlantic Coast Plain* extends from the bay of New York, where it is only a few miles wide, to the south-west. In lower Virginia it is 175 miles wide. The western portion of this section, except Virginia, is generally level. The remainder is much broken and diversified by mountains and valleys. *Dismal Swamp* is in the south-east corner of Virginia; it is about thirty miles long by twelve broad.

MOUNTAINS.

10. The *Alleghanies*, which extend to the width of two hundred miles, in Pennsylvania, the *Blue*, in Pennsylvania, the *Blue Ridge*, in Virginia, and the *Cumberland* mountains in Virginia, are the principal chains.

PEAKS.

11. The *Peaks of Otter*, 4,000 feet high, are in the Blue Ridge mountains; *Mount Marcy*, in the Adirondack mountains, is 5,400 feet high.

NATURAL CURIOSITIES.

12. The *Falls of Niagara*, which are partly in New York, form the most stupendous cataract in the world. They are divided by Goat island into two divisions.

The *Falls of Trenton*, twelve miles north of Utica, are esteemed among the finest in the world. There are six falls in two miles, aggregating 312 feet; the highest, the *precipice*, is 100 feet high.

The Creek (West Canada) in some places, in a narrow ravine, between perpendicular walls of compact granite rock, presents a scene of surpassing wildness and grandeur.

At Rochester the Genesee has a fall of ninety-six feet. Besides these there are numerous other cataracts, scarcely less beautiful, in many different places.

Watkin's Glen, at the head of Seneca Lake, is much visited because of its romantic scenery.

Saratoga is one of the most popular summer resorts in the United States.

The lakes *George*, *Cayuga*, *Seneca*, etc., are fine sheets of water, and renowned for the charming landscape along their banks. The scenery of the *Hudson* is grand and beautiful. *Harper's Ferry*, according to Jefferson, contains scenery of such romantic loveliness that one could afford to cross the Atlantic to witness it.

Virginia rivals any other state in the beauty of her mountain grandeur.

There is a lake in Giles county presenting the singular spectacle of a body of water one and one-half miles in circumference and 100 fathoms deep, on the summit of a mountain 3,700 feet high. The bed of this lake was formerly a marshy spot, in the center of which a small pond gradually formed. A stream, which had its source in the mountains, ceased to flow, and the lake suddenly rose, covering the tops of the highest trees, ascended to the top of the mountain where it overflowed.

(1) *Wier's*, *Luray*, *Blowing*, and *Saltpetre* caves are well worth visiting. They are among the grandest objects of interest in our country.

(2) From the *Peaks of Otter* you have a full view to the Atlantic ocean, and long ranges in other directions, presenting to the eye the loveliest of landscapes.

So numerous are the objects of interest it would require a volume to describe all of them.

RIVERS.

13. The rivers of this region, especially the *Hudson*, the *Delaware*, the *Susquehanna*, the *Potomac*, and the *Ohio*, afford peculiar facilities for carrying the products to the markets of the great commercial cities. The *Niagara* river is the deepest flowing river on the earth, being 700 feet deep under the Suspension Bridge.

Rivers.	Area of Basin. Square Miles.	Length. Miles.	Miles Navigable.
Hudson	12,000	350	160, to Troy.
Delaware	11,000	350	75, to Trenton.
Susquehanna	25,000	400	
Potomac		400	110, to Washington.
James		450	150, to Richmond.
Ohio	214,000	950	950, to Pittsburgh.
Monongahela		200	150, to Fairmount.
Alleghany		300	260, to Orlean, N. Y.

LAKES.

14. The Great Lakes, *Ontario* and *Erie*, which form the northern boundary of the Middle States, constitute an important feature in their physical geography, and largely contribute to their commercial advan-

tages: The small lakes of New York give additional charm to the scenery of that state, and afford some advantages for navigation.

Lake Chautauqua, only eight miles from Lake Erie, and the highest navigable water in the state, 1,290 feet above the sea-level, is drained by the Alleghany river. The scenery of its vicinity is very beautiful, and the lake is a great summer resort.

Lake Cayuga contains a bed of bottomless craters, and is subject to a curious tidal motion.

Lakes.	Length. Miles.	Breadth. Miles.	Remarks.
Erie	250	58	Greatest depth 270 feet.
Ontario	190	55	Greatest depth 600 feet.
Champlain	114	2 to 14	Shores remarkable for its beautiful scenery.
George	34	$\frac{3}{4}$ to 6	Remarkably transparent.
Oneida	20	4	It abounds in fish.
Cayuga	38	2 to 3	Its banks consist of rocks and ravines.
Chautauqua	18	1 to $1\frac{1}{2}$	Drained by the Alleghany.

SOIL.

With such an extent and diversity of surface there must be great variety. The valleys are extremely fertile, while the hilly sections have, in general, a thin soil. The northern part of New York is unproductive. In many parts, as in New Jersey, Delaware, Maryland, and other places, the soil, naturally poor, has been made very fertile by the use of marl, a kind of green sand found in great quantities in New Jersey, Maryland, and a few other places.

CLIMATE.

16. The climate of northern New York is exceedingly cold, but it becomes rapidly warmer until we arrive at southern Virginia, where the temperature is warm; snow sometimes falls, but melts in a few hours. On the lowlands of Maryland and Virginia the climate is unhealthy during the summer months.

AGRICULTURAL PRODUCTIONS.

17. The original vegetation is greatly diversified. The soil and climate are peculiarly fitted to all kinds of grain. The valleys of the Genesee, Susquehanna, and Shenandoah are famous for their wheat. Rye, oats, and barley are raised in abundance. The last named valley is known as the "Garden of America." Corn can be produced everywhere except in northern New York, owing to the rigor of the climate. Fruits, such as apples, pears, peaches, etc., are among the leading products. Virginia is next to Kentucky in the production of tobacco; Maryland produces about one-third as much as the former. The pro-

duction of garden vegetables to supply the markets of the numerous large cities is a leading pursuit, especially in New Jersey and Delaware. New York, in the value of its live stock, and in the production of milk, butter, cheese, hay, Irish potatoes, and hops, exceeds any other state. More than one-half of all the cranberries of the United States come from New Jersey. Broom-corn is raised extensively in the Mohawk valley.

MANUFACTURES.

18. In this branch of industry New York ranks first in the Union, and Pennsylvania second. The other states of this section are also engaged quite extensively in manufacturing.

The abundance of minerals, the vast water-power, and the unsurpassed commercial facilities, have made this region to rank among the leading manufacturing centers of the globe.

Cotton and woolen goods, clothing, machinery of all kinds, boots and shoes, leather, furniture, musical instruments, paper, books, hardware, railroad iron, chemicals, cigars, and prepared tobacco are some of the most important articles. New Jersey excels all the other states in the manufacture of trunks, valises, and silk goods.

MINERALS

19. In the production of coal, iron, and petroleum, Pennsylvania takes the lead; it produces two-thirds of all the coal, and three-fifths of all the iron in the United States. Between the Susquehanna and the Delaware rivers are the anthracite coal fields, the value of whose products is about one-half of the entire coal yield of our country. The coal fields of this state cover an area of 13,000 square miles; those of West Virginia 16,000, but they are, as yet, not much worked.

Virginia and Maryland are also rich in coal. Other minerals are zinc, marl, and sand for glass-making; the first two are found mainly in New Jersey. Building stone is plenty in all parts. Excellent marble, as well as copper, is found in Virginia. In north-western Pennsylvania are the far-famed oil wells, the most productive in the world. Salt is obtained in large quantities in New York, Virginia, West Virginia, and other places. Syracuse manufactures more salt than any other city of the United States, and more than half of all the salt of our country comes from New York.

COMMERCE.

20. New York, Philadelphia, and Baltimore are the great marts of foreign trade. Forty-five per cent. of all the exports of the United States, and sixty-eight per cent. of all the imports pass the first named city. The commerce of Baltimore is one-sixth that of New York, and that of Philadelphia about one-tenth,

NATURAL ADVANTAGES.

21. The pupil should be required to give these according to preceding models.

ANIMALS.

22. The domestic animals are about the same as elsewhere in the United States. In the uncultivated regions, occasionally, some of the native wild animals are met with. The fisheries in the lakes of New York are valuable; white fish, shad, and trout are abundant. In the Chesapeake bay, and the inlets, bays, and sounds along the coast are the favorite habitat of the oyster. Of these, Maryland and Virginia furnish more than any of the other states.

INTERNAL IMPROVEMENTS.

23. No part of the Union presents more extensive and numerous canals and railroads than the Middle States. The *Erie* canal is the first and most important in the United States. Its extent from Buffalo to Albany is 350 miles.

Champlain canal connects Lake Champlain with the Hudson river at Troy, and is sixty-six miles long. The *Delaware and Hudson River* canal is 108 miles long.

The *Hudson River*, the *New York Central*, the *Erie*, the *Pennsylvania Central*, the *Baltimore and Ohio* are the most prominent lines of railway.

Many elegant and costly bridges span the larger streams. The public roads are the best in the country.

INHABITANTS.

24. The Middle States were settled by people from different countries: England, Holland, Germany, Denmark, and Sweden. From this circumstance the population has always been more mixed than in New England. Those of English descent are, however, by far the largest class.

In some villages the original language, manners, and customs of the settlers are to be found, with little modification of time and circumstances.

In Pennsylvania there are large masses of Germans, and for these there are almanacs, newspapers, public documents, Bibles, etc., printed in the German language. Still the English generally prevails,

POPULATION.

States.	Population 1870.	Population 1880.	Per cent. increase.	Population Sq. Mile.
New York	4,383,000	5,084,000	16	107
Pennsylvania	3,522,000	4,283,000	21 $\frac{1}{3}$	95
New Jersey	906,000	1,131,000	25	152
Delaware	125,000	147,000	17 1-5	75
Maryland	781,000	935,000	19 $\frac{1}{2}$	95
Virginia	1,225,000	1,513,000	23 $\frac{1}{2}$	37 $\frac{1}{2}$
West Virginia	442,000	618,000	40	25
District of Columbia	132,000	178,000	35	5,966 $\frac{3}{4}$

GOVERNMENT.

26. Congress makes laws for the government of the District of Columbia. There is nothing peculiar in the government of the states; they differ from each other only in minor details.

OCCUPATION.

27. Agriculture is the chief employment, and is conducted on a grand scale. Commerce employs thousands of people. More than a million are engaged in manufacturing; many thousands are employed in the mines and fisheries.

EDUCATION.

28. In nearly all of these states first-class advantages are afforded for the education of youth. Academies, seminaries, colleges, and universities are numerous. Among those best known are *Cornell University*, at Ithaca; *Columbia College* and the *University*, in the city of New York; *Princeton College*, at Princeton; *Girard College* and the *University of Pennsylvania*, in Philadelphia; the *University of Maryland* and *John Hopkins University*, in Baltimore; and the *University of Virginia*, near Charlottesville.

RELIGION.

29. The usual religious organizations of our country prevail here; there are many Roman Catholics in Maryland.

CITIES.

30. The first in size and most important is *New York*; this, together with Brooklyn, Jersey City, and other suburban places, which really make one city, has a population of 2,500,000, the second largest in the world. It is the first city in the United States in commerce and manufacturing. It is called the "Metropolitan City."

Among the curious and interesting objects in this city we may mention *Broadway*, one of the finest streets in the world; *Central Park*, of 800 acres,

ornamented by the City Hall; a *splendid fountain*, belonging to the *Croton Aqueduct* which is forty-one miles long, and supplies the city with excellent water; the *Battery*, which is a handsome promenade, skirted by the bay; the *Exchange*, a noble edifice in Wall street.

Brooklyn contains the residences of many of the merchants of New York. *Albany* contains a very costly state-house. *Rochester* is noted for its flouring mills. *Buffalo* for an extensive lake trade. *Philadelphia* is the first city in the Union in the extent of her manufactures. It is called the "Quaker City," the "City of Homes," and the "Birmingham of America." It is the first city in the world in coal, and the second in manufacturing.

Baltimore has surroundings surpassing those of any other city in the Union in variety and elegance; it is an important manufacturing city. It is the first city in the world in oysters.

Washington, the capital of the United States, contains many public buildings belonging to the government; some of them are of surpassing splendor. The Washington Monument is the highest structure ever reared by man, being 555½ feet high.

Pittsburgh is noted for its extensive manufactures of iron and glass-ware. *Richmond* is celebrated for its tobacco trade, and *Syracuse* for its salt. One-sixth of all the salt made in the United States comes from the last named city.

Norfolk, the chief seaport of Virginia, is on one of the finest harbors in the United States. The region in which it is situated is devoted to the production of early vegetables for the market.

Several towns of this section are celebrated for their historical interest. *Plattsburg* is noted for the two victories gained over the British in 1814. *Trenton*, for the capture of the Hessians by General Washington in 1776. *Gettysburg* was the scene of one of the most important battles of the late war, fought July 2 and 3, 1863. *Mount Vernon*, on the Potomac, was the residence of George Washington, and contains his tomb.

The following is a list of the population of the leading cities:

Cities.	Population.	Cities.	Population.
NEW YORK.		Paterson	51,000
New York	1,206,000	Camden	42,000
Brooklyn	567,000	Hoboken	31,000
Buffalo	155,000	Elizabeth	28,000
Rochester	89,000	New Brunswick	17,000
Albany	91,000	PENNSYLVANIA.	
Troy	57,000	Philadelphia	847,000
Syracuse	52,000	Pittsburg	156,000
Utica	34,000	Alleghany	79,000
Auburn	22,000	Scranton	46,000
Oswego	21,000	Reading	43,000
Elmira	21,000	Harrisburg	31,000
Poughkeepsie	20,000	Erie	28,000
NEW JERSEY.		Lancaster	26,000
Newark	137,000	Wilkesbarre	23,000
Jersey City	121,000	Altoona	20,000
Trenton	30,000		

Cities.	Population.	Cities.	Population.
DELAWARE.		VIRGINIA.	
Wilmington	42,000	Richmond	64,000
Dover	2,000	Norfolk	22,000
MARYLAND.		Petersburg	22,000
Baltimore	332,000	Lynchburg	16,000
Cumberland	11,000	Alexandria	14,000
Frederick	9,000	Portsmouth	11,000
Annapolis	6,500	WEST VIRGINIA.	
DISTRICT OF COLUMBIA.		Wheeling	31,000
Washington	147,000	Parkersburg	6,600
Georgetown	13,000	Charleston	4,200

HISTORY.

31. The Middle States were the chief theater of action during the Revolutionary war. New York was captured by the British in the autumn of 1776, and they did not leave it till November 25, 1783. This city was the residence of the British commander-in-chief, and the center of all military operations throughout the country.

CONGRESS.

32. Philadelphia was also in the possession of the British from September 26, 1777, till the 18th of June, 1778.

Congress assembled at Philadelphia till it was threatened by the British, in the summer of 1777. After the war, New York was for awhile the seat of government; and then Philadelphia, till it was removed to Washington, in 1800.

Washington occupied stations upon the Hudson, and in New Jersey and Pennsylvania, for several years; and his most celebrated displays of generalship took place in battles and skirmishes within the states of New York, New Jersey, and Pennsylvania.

States.	When Settled.	By Whom Settled.	When Admitted.
New York*	1614	Dutch.	1788
Pennsylvania*	1681	Wm. Penn.	1787
New Jersey*	1620	Dutch.	1787
Delaware*	1630	Swedes and Finns.	1787
Maryland*	1634	English.	1788
Virginia*	1607	English.	1788
West Virginia			1862

*Of the thirteen original colonies.

ORIGIN OF NAMES OF STATES.

New York received its name in 1664 in reference to the Duke of York and Albany, to whom this territory was granted by the king of England.

New Jersey was named in 1664 from the island of Jersey, on the coast of France, the residence of Sir John Carteret, to whom the territory was granted.

Pennsylvania was so called in 1681 after William Penn, and *sylvania*, meaning forest, Penn sylvania signifying Penn forest.

Delaware was so called in 1703 from Delaware bay, on which it lies, and which received its name from Lord De La Ware, who died on the bay.

Maryland received its name in honor of Henrietta Maria, queen of Charles I., in his patent to Lord Baltimore, June 30, 1632.

Virginia was so called in 1584, after Elizabeth, the Virgin Queen of England.

CHAPTER VI.
SOUTHERN STATES.
MAP EXERCISES.

Locate the following:

CAPES.

Lookout, Hatteras, Fear, Romain, Sable, Romano, San Blas.

GULFS AND BAYS.

Winyah, Charlotte, Harbor, Tampa, Apalachee, Apalachicola, Florida, Pensacola, Mobile, Atchafalaya, Galveston, Matagorda, Laguna de la Madre, Vermillion, Barataria.

STRAITS AND SOUNDS.

Pamlico, Albermarle, St. Helena, Port Royal, Mississippi, Florida Strait, Corpus Christi Pass, Isle au Brocton Sound.

ISLANDS.

Florida Keys, Marquesas, Dry Tortugas, Chandeleur, Galveston, Padre.

MOUNTAIN RANGES.

Cumberland, Blue Ridge, Unaka, Smoky, Black.

MOUNTAIN PEAKS.

Grandfather, Cæsar's Head, Black Dome, Lookout, Stone.

PLAINS.

Atlantic Coast, Alligator Swamp, Okeefinokee, The Everglades.

LAKES.

Okeechobee, Kissime, Ponchartrain, Borgne, Calcasieu, Sabine.

RIVERS.

Chowan, Roanoke, Pamlico, Neuse, Cape Fear, Great Pedee, Santee, Congaree, Wateree, Savannah, Altamaha, Oconee, Ocmulgee, St. Marys, St. Johns, Suwanee, Apalachicola, Flint, Chattahoochee, Perdido, Mobile, Alabama, Tombigbee, Pearl, Mississippi, Sabine, Atchafalaya, Calcasieu, Trinity, Brazos, Colorado, Neuces, Rio Grande, Red, Pecos, Arkansas, Canadian, White, Yazoo, Tennessee.

CITIES.

Raleigh, Wilmington, New Berne, Weldon, Columbia, Charleston, *Atlanta*, Macon, Columbus, Savannah, Augusta, *Montgomery*, Mobile, Selma, Huntsville, *Tallahassee*, Pensacola, Key West, St. Augustine, Jacksonville, Nashville, Knoxville, Memphis, Chattanooga, *Jackson*, Vicksburg, Natchez, *Baton Rouge*, New Orleans, Algiers, Donaldsonville, Alexandria, Natchitoches, Shreveport, *Little Rock*, Helena, Austin, Galveston, Houston, Dallas, Indianola, San Antonio, New Braunfels, Talequah.

RELATIVE POSITION.

In what direction is Atlanta from Austin? from Columbia? from Pensacola? from Nashville? from Little Rock? St. Augustine?

TRAVELS.

What states would you cross in going from Atlanta to Austin? to Little Rock? to Raleigh? Trace a water route from Savannah to Memphis? to Little Rock? to Austin? to Jackson?

MISCELLANEOUS.

What large towns have nearly the same latitude as New Orleans? When it is one o'clock at Raleigh, what is the time of the day at Austin? By means of the scale of miles, what is the distance from New Orleans to Austin? to Little Rock? to Nashville? to Atlanta?

What is the altitude of the sun to-day at noon in St. Augustine? Give the abbreviation of the name of each state of this section.

DESCRIPTION.

POLITICAL DIVISIONS.

1. The Southern States comprise North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Tennessee, Louisiana, Arkansas, Texas, and the Indian Territory.

POSITION.

2. This section occupies the southern part of the United States. Kansas, Missouri, Kentucky, and Virginia are on the northern boundary; the Atlantic washes the eastern shore, and the Gulf of Mexico the southern; Mexico and New Mexico are on the west; the latter also forms part of the northern boundary of Texas.

LATITUDE AND LONGITUDE.

3. These states lie between the parallels 25° and $36\frac{1}{2}^{\circ}$ north; and between the meridians 76° and 107° west.

EXTENT.

The following exhibits the area of each state :

Name.	Gross. Sq. Miles.	Water. Sq. Miles.	Land. Sq. Miles.
North Carolina	52,250	3,670	48,580
South Carolina	30,570	400	30,170
Georgia	59,475	495	58,980
Florida	58,680	4,440	54,240
Alabama	52,250	710	51,540
Tennessee	42,050	300	41,750
Mississippi	46,810	470	46,340
Louisiana	48,720	3,300	45,420
Arkansas	53,850	805	53,045
Texas	265,780	3,490	262,290
Indian Territory	64,690	600	64,090

CHARACTERISTICS.

" Here in a sunny clime, 'mid breezes bland,
Bright flowers unfold, and lucious fruits expand.
No wintry blast to chill, the magnolia blows,
The sweet fig ripens, and the orange glows.
Mixed with the sand or deep in mountain veins,
The heedful miners golden ores obtain ;
While richer stores prolific spring to birth,
Almost unbidden, from the teeming earth.
Cotton, tobacco, sugar, rice repay,
In this soft clime, the planter's culturing sway."

COAST.

6. Every part of the coast is low and flat. The capes of North Carolina, Hatteras, Lookout, and Fear, are dangerous to navigation, being beset with shoals. The Peninsula of Florida may be considered as an immense cape. The delta of the Mississippi is a long projection forty miles in extent, and is growing into the Gulf at the rate of 300 feet a year. On the Gulf coast shifting sand-bars hinder navigation. Florida has 2,100 miles of sea-coast; Louisiana, 1,250, and Texas, 400 miles

BAYS AND SOUNDS.

7. These are numerous but generally shallow, and little available for the purpose of navigation. *Mobile* is the most important bay in this part of the United States.

ISLANDS.

8. *Galveston* is the largest and most important; it is thirty miles long and three wide, and contains the populous city of Galveston, noted for its commerce.

The *Florida Keys*, south of Florida, is a large group of coral islands inhabited by a few fishermen and wreckers. Many of the islands along the Atlantic coast are low and sandy, but some of them are very fertile, and produce the famous sea-island cotton distinguished for its long, silky fiber.

SURFACE.

9. About two-thirds of this section is low plain. The Atlantic Coast Plain attains here its greatest width, about 300 miles. The tide water section is flat; from this the surface rises until the mountains are reached. The lowlands are alluvial, and have been formed by the conjoint action of the river and the ocean.

Almost the whole state of Florida is a coral formation covered with a rich soil; this accounts for its flat surface.

About two-thirds of Louisiana is of delta origin, and no part is more than 100 feet above the sea-level. There is a great diversity of surface in other parts of this section.

MOUNTAIN RANGES.

10. The southern portion of the *Appalachian* system extends, in various ranges, from Virginia to Alabama, where it terminates. This system reaches its greatest elevation in North Carolina, in the Unaka range.

MOUNTAIN PEAKS.

	Height.		Height.
Smoky Dome	6,600 feet.	Grandfather's	5,897 feet.
Guyot	6,636 "	Stone Mountain	2,220 "
Buckley	6,600 "	Mitchell's	6,707 "
King's	1,650 "		

NATURAL CURIOSITIES.

11. These are many and of the highest order. Several isolated peaks afford magnificent views. Numerous cataracts exist in the mountains.

Stone Mountain, in Georgia, and *Lookout Mountain*, in Tennessee, are favorite resorts for tourists; the latter, in addition to the grand and beautiful scenery, is remarkable for a great battle fought there November 24, 1863.

Table Rock, of South Carolina, presents on one side a perpendicular face of 1,100 feet.

Cesar's Head, in the same vicinity, is so called from its resemblance to a human cranium.

In the north-western extremity of Georgia, in the Raccoon Mountains, is *Nicojeck Cave*. Its mouth is fifty feet high and eighty feet wide. It has been explored for several miles without coming to the end. The floor is covered with a stream of cool, limpid water through its whole extent, and the cavern is accessible only in a canoe. Three miles within is a cataract, beyond which voyagers have not penetrated. The roof is of solid limestone, smooth and flat, and the cave is remarkably uniform in size throughout.

There are numerous other very interesting caves in the mountains, especially in Tennessee.

The *Enchanted Mountains*, spurs of the Cumberland, have footprints of men, horses, and other animals distinctly imbedded in solid limestone. The human feet have six toes, and the track in one instance is sixteen inches long.

In the midst of a region of wild and romantic beauty, in Walker county, Alabama, there is a natural bridge, rivaling that of Virginia. It spans a chasm 120 feet wide, and 70 feet high.

Florida contains numerous springs of enormous size. Some, at their sources, pour forth streams large enough to turn a mill.

The *Great Spring*, twelve miles from Tallahassee, is over 1,200 feet deep, and forms a beautiful lake of great transparency, reflecting all the colors of the sky; its waters are almost as cold as ice, even in the hottest weather.

The scenery of the St. Johns river is remarkably beautiful, and many of its towns are rapidly growing in favor as winter resorts.

Twenty miles above the Palatka, the strange and mysterious Ocklawaha pours into the St. Johns river. Its channel is narrow, but deep, and its banks are bordered by a magnificent maze of beautiful foliage and brilliant flowers, sometimes stretching in solid patches half a mile in extent.

A short distance from its mouth is the famed *Silver Spring*, a great, deep basin of water which wells up from the bowels of the earth with much force, forming a lake five acres in area. The water is fresh, cool, clear as a crystal, and eighty feet deep. Fine white sand covers the bottom.

Among the objects of interest to tourists the *Hot Springs* of Arkansas, about sixty miles south-west of Little Rock, stand prominent. There are about 100 of these, with temperatures varying from 135° to 160°.

A specially remarkable feature about them is, that there are springs of very cold water in such close juxtaposition that one can sit with one hand in a hot spring and with the other in a cold spring. The waters of these springs are said to have great curative properties, and are visited annually by thousands of persons.

Many noted mineral springs in various other places.

LAKES.

12. The lakes of Florida and Louisiana are numerous; those of the former are noted for their great transparency. The *Okeechobee*, in the south, is the largest.

The lakes of Louisiana are shallow, and the term *lagoon* is a more appropriate designation of these bodies of water. *Lake Pontchartrain* contains West End and Spanish Fort on its banks—fine resorts for the people of New Orleans. In the north-western part of the state there

is a series of lakes, formed in the valley of the Red river by the overflowing of that stream. When the water is high it sets back and fills these reservoirs, which are nearly drained again during the dry season.

Lakes.	Length Miles.	Breadth Miles.	Area Sq. Miles.
Okeechobee	40	25	800
Pontchartrain	40	25	800
Borgne	60	26	
Sabine	20	9	160
Calcasieu	20	5	90
Kissimee	12		

RIVERS.

13. This entire region is well watered by noble rivers, many of which afford many miles of navigation. In general they are navigable through the tide water section which is about sixty miles wide. The following table exhibits the length of the principal rivers, and the number of miles of navigation :

Rivers.	Length. Miles.	Miles of Navigation.
Chowan . . .		75
Roanoke. . .	230	130, to Weldon.
Neuse. . . .	300	120, to Goldsborough.
Pamlico . . .	220	100, to Tarborough.
Cape Fear . .	250	130, to Fayetteville.
Great Pedee .		120, to Gardner's Bluff.
Santee. . . .	150	150.
Savannah . .	550	230, to Augusta, and 130 miles farther by small boats.
Altamaha . .	150	150.
St. John. . .	350	250, to Enterprise, and much farther by small boats.
Appalachicola	90	90.
Escambia . .		to the mouth of the Coneculla.
Mobile . . .	45	45.
Alabama . . .	300	265, to Montgomery.
Tombigbee. .	500	355, to Columbus.
Pearl	400	About 100 for small boats.
Tennessee . .	800	270, to Florence; above the shoals to Kingston.
Red.	1200	350, to Shreveport.
Arkansas. . .	1500	650, to Fort Smith.
Sabine. . . .	500	400, for small vessels.

SOIL.

14. Some of the richest soils in our country are in the Southern States. In the mountain regions in the intervals between the streams and in the flat sandy portions, there is much poor soil. The western

parts of Texas and the Indian territory contain extensive tracts of barren, sandy soil.

CLIMATE.

15. Along the coast the climate is hot and moist, and in some places unhealthy, but in the western portions it is dry. In the elevated regions it is more temperate. The climate of Florida is decidedly tropical; even in winter the heat is oppressive. The temperature of the western states is cooler than that of the Atlantic states. The breezes from the Gulf Stream render this portion some warmer in the same latitude.

VEGETATION.

16. Here nature exhibits great luxuriance and variety. Heavy forests of pine cover the lowlands, except in Florida. The yellow pine, producing tar, pitch, turpentine, and valuable timber; the live oak, the gloomy cypress, the graceful palmetto, the aromatic bay tree, are indigenous to this region.

Tobacco, rice, cotton, corn, and sweet potatoes are the staples of agriculture. Oranges, lemons, and figs are among the fruits. The sugar cane is raised extensively in southern Mississippi and in Louisiana. In Texas there are numerous ranches containing large herds of cattle.

MINERALS.

17. Gold is found in the mountain regions from Virginia to Alabama. Iron exists in all the states, but nowhere so abundant as in Tennessee; it is said that thirty-five counties in that state contain iron.

Coal is abundant in the mountainous parts. Florida and Louisiana contain few minerals; coral is obtained in the former, and large quantities of sulphur and salt in the latter. Arkansas is said to contain every known mineral. Tennessee is very rich in marble; 200 different varieties and shades are known. Near Vermillion bay there is a mass of pure rock salt covering 144 acres and of unknown depth. It was discovered during the late war.

MANUFACTURES.

18. These formerly were few, but are now becoming more common. Manufactures are springing up all over the south. The leading articles of manufacture are tar, rosin, turpentine, cotton-seed oil, cotton goods, woolen goods, iron, iron ware, flour, machinery, lumber, sugar, molasses, steamboats, etc.

COMMERCE.

19. The great commercial centers of the south are Wilmington, Charleston, Savannah, Mobile, New Orleans and Galveston. The exports are chiefly the great staples: cotton, sugar, rice, lumber and naval stores, (tar, pitch, rosin, and turpentine.) Texas also exports wheat, cattle, ponies, etc.

The imports are manufactures from the northern states and from Europe, (northern fruits, wheat, ice, etc.)

NATURAL ADVANTAGES.

20. The pupil should be required to summarize these.

INTERNAL IMPROVEMENTS.

21. Railroads have not been built on a scale of such magnitude as in the northern states, because of a lack of capital, and because her rivers have all along afforded cheap transportation; still there are many important lines.

Georgia takes the lead in useful improvements of all kinds. Several canals have been dug, and the channels of some of her rivers have been improved. In many places the banks of the Mississippi river are so low that huge dikes, called *levees*, have been built to keep the water in its channels.

Sometimes these levees give way, when great destruction of property and even life ensues. The disasters of 1873 and 1882 are too fresh in our minds to need a recital.

About 12,000,000 acres of swamp land is being drained in southern Florida; also, several canals of importance are being constructed.

ANIMALS.

22. Alligators are met with in the rivers; the rattlesnake and moccasin are common. Humming-birds, paroquets, mocking-birds, the turkey buzzard (a species of small vulture), are among the peculiar animals. Deer, wild turkey, grouse and water-fowl abound in some parts.

INHABITANTS.

23. The population is chiefly of English descent, though it is mixed in some places. In Louisiana there are many descendants of the French, called Creoles, and of the Spanish in Florida. The Indians, formerly numerous, are nearly all removed to the Indian territory.

The negroes, who form two-fifths of the population, are a separate cast. They were brought to this country from Africa during the slave-holding period. It is said that Africa was depopulated of 40,000,000 of her inhabitants to supply the slave trade of America.

POPULATION.

24. The following contains the population of the Southern States:

States.	Population 1870.	Population 1880.	Per cent. Increase.	Population Sq. mile.
North Carolina	1,071,000	1,400,000	30 $\frac{2}{3}$	30
South Carolina	706,000	966,000	41 2-5	32 $\frac{1}{2}$
Georgia	1,184,000	1,542,000	30	26
Florida	188,000	269,000	42	4 $\frac{1}{2}$
Alabama	907,000	1,263,000	26 $\frac{1}{2}$	24 $\frac{1}{2}$
Mississippi	828,000	1,132,000	26 $\frac{2}{3}$	28
Tennessee	1,259,000	1,542,000	22 $\frac{1}{2}$	37
Louisiana	727,000	940,000	29 $\frac{1}{3}$	21
Arkansas	484,000	803,000	65 $\frac{2}{3}$	15
Texas	819,000	1,592,000	95	6
Indian Territory	68,000			

OCCUPATIONS.

25. Agriculture is the chief employment; the farms are generally large. There are few villages or towns, and the people live in a scattered manner over the country.

The inventions of the cotton gin, the spinning-jenny, and the power loom, have wrought a wonderful effect upon the industrial pursuits of the Southern States. One of these machines will do the work of several hundred hands. Oyster fishing, and the taking of sponges in Florida are important occupations.

LANGUAGE.

26. The English is the language of the inhabitants in general. In Louisiana the French is used to a considerable extent; many of the books, newspapers, and laws are printed in this language. There are some Spaniards in Florida who still speak the Spanish tongue.

GOVERNMENT.

27. There is nothing peculiar in the government of the states. Indian territory has been set apart by Congress as a reservation for the Indians of our country. This was done in 1834, and already many tribes have been removed thither, among the chief are the Cherokees, Choctaws, Creeks, and Chicasaws. Our government exercises no control over this territory except to preserve peace.

EDUCATION.

28. A number of good schools exist, and in some of the states liberal appropriations are made for educational purposes. However, the facilities are not equal to those of the northern and eastern states.

The per cent. of illiteracy is greater than in any other part of the Union.

RELIGION.

29. The people generally incline either to the Methodists or Baptists; the latter are more numerous here than elsewhere in the United States. According to the last census the Baptists of the Southern States numbered 1,024,000; the Methodists, 1,229,000.

CHIEF CITIES.

30. *New Orleans* stands on the left bank of the Mississippi river, 100 miles from its mouth. From its form, as it lies on the bend of the river, it is sometimes called the "Crescent City."

The ground on which it is built is soft and marshy, and there are no cellars to any of the buildings. Nothing can exceed the hurry and bustle of this city during the shipping season. Its wharves are constantly crowded by hundreds of steamboats. As a cotton market it ranks first in the world.

Mobile ranks third as a cotton market; it is compactly built and well drained. The public buildings are numerous.

Savannah, on one of the best harbors in the South, is regularly laid out with wide streets, and beautifully shaded with palmetto and other trees. Many of its dwellings are handsome specimens of architecture. It ranks second as a cotton market.

Charleston, at the junction of Cooper and Ashley rivers, has a deep and spacious harbor, and is the most commercial city of South Carolina. It is the first rice market in the United States. The harbor is defended by Fort Sumpter and Castle Pinckney. The street scenery resembles that of Savannah.

Wilmington has an extensive trade, both inland and foreign.

Nashville, the capital of Tennessee, is a handsome city and the educational center of the South.

It is the seat of three universities, one college, and two female seminaries. The capitol, which stands on a commanding eminence 175 feet above the river, is a magnificent structure. This city is distinguished for its wealth, enterprising spirit, literary taste, and polished society.

Memphis has a fine situation on the Mississippi, and is a great cotton market.

During the summers of 1880-81 it was sorely afflicted with the yellow fever scourge, which caused the population to decrease largely.

Atlanta, the capital of Georgia, is the great railroad center of the South. The city is noted for its equable and healthy climate. It is popularly known as the "Gate City."

St. Augustine is on a safe and commodious harbor. It is the oldest city of the United States, having been founded in 1565 by the Spaniards.

Pensacola has one of the safest harbors on the Gulf of Mexico, and contains a United States navy yard.

POPULATION OF LEADING TOWNS AND CITIES.

Cities.	Population.	Cities.	Population.
NORTH CAROLINA.		MISSISSIPPI.	
Wilmington	17,000	Vicksburg	12,000
Raleigh	9,000	Natchez	7,000
Charlotte	7,000	Jackson	5,000
New Berne	7,500	Meridian	4,000
Fayetteville	3,500	Columbus	4,000
Goldsborough	3,300	TENNESSEE.	
SOUTH CAROLINA.		Nashville	43,000
Charleston	50,000	Memphis	34,000
Columbia	10,000	Chattanooga	13,000
Greenville	6,200	Knoxville	10,000
GEORGIA.		ARKANSAS.	
Atlanta	37,000	Little Rock	13,000
Savannah	31,000	Helena	3,600
Augusta	22,000	Pine Bluff	3,200
Macon	13,000	LOUISIANA.	
Columbus	10,000	New Orleans	216,000
Athens	6,000	Shreveport	8,000
FLORIDA.		Baton Rouge	7,000
Key West	10,000	Monroe	2,000
Jacksonville	8,000	TEXAS.	
Pensacola	7,000	Galveston	22,000
St. Augustine	2,300	San Antonio	21,000
Tallahassee	5,000	Houston	17,000
ALABAMA.		Austin	11,000
Mobile	29,000	Dallas	10,000
Montgomery	17,000	Waco	7,300
Selma	7,500	Fort Worth	6,700
Huntsville	5,000		

HISTORY.

North and South Carolina were originally embraced under the general term of Carolinas; they were separated in 1729.

Georgia was the last settled of the Atlantic States. The charter under which the colony was founded was granted in 1732 by George II., in honor of whom it received its name. The first settlement was made the following year at Savannah.

Florida was purchased of Spain in 1820, and at this time included the southern portions of Alabama and Mississippi. The first settlement was made at St. Augustine in 1565.

Louisiana, with all the territory west of the Mississippi not claimed by Mexico, was purchased of France in the year 1803, by our government for a consideration of \$15,000,000; it has ever since been known as the "Louisiana Purchase."

Texas was originally a state of Mexico, but seceded in 1835, and in 1845 it was annexed to the United States.

ORIGIN OF NAMES OF STATES.

Carolina was so called first by the French in 1564, in honor of King Charles IX. of France. It was afterwards, in 1729, divided into North and South Carolina.

Georgia was named in 1732, in honor of King George II.

Alabama was so called in 1614 from its principal river, meaning "here we rest."

Mississippi was so called in 1800 from its western boundary. The Mississippi is said to denote "the river formed by the union of many."

Louisiana derived its name in 1679, in honor of Louis XIV. of France.

Tennessee derived its name in 1796 from its principal river. The word Tennessee is said to signify a carved spoon.

Arkansas was so called in 1812 from its principal river, an Indian name.

Florida was so called by Juan Ponce de Leon, 1512, because it was discovered on Easter Sunday, (*La pascua de flores*, the passover of flowers.)

Texas, a Spanish word, applied to the Republic, signifies "friends."

CHAPTER VII.

THE NORTH-CENTRAL STATES.

MAP EXERCISES.

Locate the following:

CAPES.

White Fish, Keweenaw.

GULFS AND BAYS.

Sandusky, Saginaw, Green, Thunder, Fond du Lac, Keweenaw, White Fish.

STRAIT.

Mackinaw.

ISLANDS.

Kelley's, Bois Blanc, Washington, St. Martin's, Fox, Beaver, Manitou, Apostle, Royale, Drummond.

MOUNTAIN RANGES.

Ozark, Cumberland, Black Hills.

MOUNTAIN PEAKS.

Iron, Pilot Knob.

LAKES.

Superior, Michigan, Huron, Erie, St. Clair, Winnebago, Koshkonong, Traverse, Big Stone, Devil, Houghton, Lake of the Woods, Red, Rainy, Sturgeon, Mille Lac, Leech, Cass, Winibigoshish.

RIVERS.

Mississippi, Ohio, Missouri, Kaskaskia, Rock, Wisconsin, Chippewa, St. Croix, Menomonee, Fox, St. Mary's, St. Clair, Detroit, Kalamazoo, Grand, Muskegon, Saginaw, Maumee, Wabash, White, Miami, Scioto, Muskingum, Big Sandy, Kentucky, Green, Licking, Cumberland, Tennessee, Arkansas, Kansas, Platte, Osage, Des Moines, Minnesota, Dakota, Red River of the North, Niobrara, Big Scheyenne, Illinois.

CITIES.

Cincinnati, *Columbus*, Cleveland, Toledo, Dayton, Louisville, Newport, *Indianapolis*, Evansville, Terre Haute, Peoria, Chicago, *Springfield*, Quincy, Fort Wayne, *Madison*, Milwaukee, Racine, La Crosse, Oshkosh, Detroit, *Lansing*, Grand Rapids, Saginaw, St. Louis, Jefferson City, Kansas City, *St. Joseph*, *St. Paul*, Minneapolis, *Des Moines*, Keokuk, Dubuque, Burlington, Omaha, Yankton, *Lincoln*, *Topeka*, Leavenworth.

RELATIVE POSITION.

In what direction is Cincinnati from Louisville? from Columbus? Chicago? St. Louis? Frankfort? Indianapolis from Kansas City? Milwaukee? Toledo? Springfield? Columbus? Yankton? Louisville?

TRAVELS.

On what waters would you sail in going from Cincinnati to St. Paul? to Chicago? Yankton? Toledo? Columbus? In going from Detroit to Oshkosh? to Duluth? to Cleveland? to Fort Wayne?

MISCELLANEOUS.

Give the latitude of the capital of each state of this section. Give longitude of the same. Name ten cities on the Ohio river. Why should St. Louis become a large city? Why is Chicago large? What places have the same length of day as Columbus? What is the difference of time between Columbus and Indianapolis? St. Louis? Omaha? In which city does the sun set first to-day, Louisville or Grand Rapids? Covington or Toledo? Give abbreviations of the names of states of this section.

DESCRIPTION.

POLITICAL DIVISIONS.

1. This section of the Union comprises the states of Kentucky, Ohio, Indiana, Illinois, Michigan, Wisconsin, Minnesota, Iowa, Missouri, Kansas, Nebraska, and Dakota Territory.

POSITION.

2. It is bounded on the north by British America and the Lakes, and on the east, west, and south by states and territories of the United States.

LATITUDE AND LONGITUDE.

3. It lies between the parallels 36° and 49° and between the meridians $80\frac{1}{4}^{\circ}$ and 104° west of Greenwich.

EXTENT.

States.	Gross Area, Sq. miles.	Water Surface, Sq. miles.	Land Surface, Sq. miles.
Kentucky	40,400	400	40,000
Ohio	41,060	300	40,760
Indiana	36,350	440	35,910
Illinois	56,650	650	56,000
Michigan	58,915	1,485	57,430
Wisconsin	56,040	1,590	54,450
Minnesota	83,365	4,160	79,205
Iowa	56,025	550	55,475
Missouri	66,415	680	65,735
Kansas	82,080	380	81,700
Nebraska	76,855	670	76,185
Dakota	149,100	1,400	147,800

5. Distances from Cincinnati.

Louisville	137 miles.	Indianapolis	100 miles.
Milwaukee	320 "	St. Paul	600 "
Chicago	270 "	Cleveland	235 "
Nashville	250 "	Omaha	620 "
St. Louis	300 "	Saginaw	300 "

CHARACTERISTICS.

6. The Western States have been described as follows:

If thou wouldst find a favored land,
 By nature's chosen bounties blest,
 A fertile soil, a climate bland,
 Go seek the regions of the West.
 Here is the farmer's paradise,
 Rich harvests come with little care;
 While spreading rivers brimming rise,
 And to the marts these products bear.
 The grand Mississippi toils
 For millions over its valley spread,
 And asks no share of countless spoils
 Upon its burdened bosom sped.
 Majestic stream! thou roll'st along,
 Type of the land thy waters love,
 With bosom broad and current strong,
 Oh! who shall stay thy onward sway?

COAST.

7. This division of the United States has no sea coast, but its lake coast is extensive. The state of Michigan alone has above 1,400 miles, because of which it is frequently called the "Lake State."

GULFS AND BAYS.

8. The great lakes are well indented, and many bays are formed; Saginaw, Green, Fond du Lac, Thunder, Sandusky, etc., are the principal.

The following gives the dimensions of some of the largest bays:

Bays.	Length, Miles.	Breadth, Miles.	Depth.
Green	100	10 to 20	500 feet.
Saginaw	60	30	Deep enough for the largest vessels.
Maumee	7	10	
Sandusky	15	5	

ISLANDS.

9. The islands are generally small, but some, as those in Lake Erie, are important.

Isle Royal, in Lake Superior, contains copper mines. It is forty miles long.

Drummond is a large island in Lake Huron, belonging to Michigan.

The *Apostle Islands*, of Lake Superior, contain numerous interesting caves. They are sometimes styled the "Twelve Apostles," though there are twenty-seven of them, and contain 200 square miles. Brown sandstone is extensively quarried.

SURFACE.

10. The surface may be described as composed of vast level tracts, slightly broken in some places with low hills, and in others gently undulating, but rarely rugged or precipitous.

The beds of the streams are often worn deep below the general elevation, giving their banks a hilly appearance, which, however, is wholly deceptive. The hilly sections embrace the southern parts of Ohio, Indiana, Illinois, and Missouri; also large portions of Dakota and northern Michigan. South-eastern Kentucky contains some mountains and much broken surface. The remainder is in general level or slightly rolling.

MOUNTAINS.

11. This region contains no mountain chains of extent, except the Cumberland on the eastern boundary of Kentucky, and the Ozark in Missouri; the latter may be regarded as a part of the Rocky Mountain system, and are about 1,000 feet high.

PLAINS AND VALLEYS.

12. The larger valleys have already been described. There are many smaller ones noted for their beauty and fertility. There are extensive prairies in Illinois, Iowa, and some other places, celebrated for their fertility.

NATURAL CURIOSITIES.

13. Some of the largest caves in the world are found in the Western States. *Mammoth Cave* has been described.

Epsom Salt Cave of Indiana. In Indiana, on the bank of the Big Blue river, a small stream falling into the Ohio, is the Epsom Salt Cave. This contains saltpetre, aluminous earth, and gypsum.

About a mile and a half within the cave is a white column, thirty feet high, fluted from top to bottom, and surrounded by smaller columns of the same shape and appearance. The floor of the cave is covered with Epsom salt, sometimes in lumps of ten pounds weight.

Kentucky surpasses every other state of this section in the objects of interest as exhibited in nature.

Christian county, Kentucky, contains a natural bridge, 130 feet high and seventy feet long.

The *Great Kanawha*, or New River, is celebrated for its wild, romantic scenery. It consists of numerous falls, canons, defiles, massive cliffs, and dreary recesses. In the same vicinity are numerous mineral springs.

Cumberland Gap is a passage of a river of that name, between cliffs 1,300 feet high, through the Cumberland mountains.

The *Lost River*, in Orange county, Indiana, sinks into the ground, and after a distance of eleven miles reappears at the surface.

There are many similar streams in Kentucky.

The *Wisconsin*, *St. Croix*, and *Chippewa* rivers abound in much of the finest river scenery of our country.

THE BAD LANDS.

There is a sterile region 100 miles long and thirty wide in southwestern Dakota, and extending into Nebraska. The country around is a prairie, and the "Bad Lands" occupy a valley about 300 feet deep, which seems to have sunk away from the rest of the world, and presents one of the most wonderful sights known. It looks like an immense city in ruins—a city surrounded by walls and bastions, filled with palaces, gigantic domes, and monuments of the most striking and fantastic architecture.

Pictured Rocks of Lake Superior. The south-eastern shore of Lake Superior exhibits a singular phenomenon called *Pictured Rocks*. They

are a series of lofty bluffs and precipices, exhibiting the appearance of towering walls, ruins, caverns, waterfalls, etc., in every variety of combination.

They extend twelve miles, and are generally about 300 feet in height, and often overhanging the water. The color varies in shades of black, yellow, red, white and brown. The waves driven by the violent north winds have worn the rocky shores into numerous caverns, bays, and indentations, which increase the romantic effect of these appearances. In some places these caverns receive the waters with a tremendous roar. In one place a cascade tumbles from the top of the rock in so wide a curve that boats pass between the sheet of water and the shore.

LAKES.

14. The Great Lakes which lie between the Western States and British America have been noticed. There are numerous small lakes in the three northern states. Minnesota is said to contain not less than 10,000 lakes. Wisconsin, Michigan and northern Indiana contain thousands more. Many of them abound in fish, and upon their banks saw-mills are built. Besides this they add much to the attractions of the country.

Lake Itasca is said to be a beautiful sheet of water, about seven miles long, from one to three wide, clear and deep.

Devil's Lake is a sheet of salt water about fifty miles from the northern boundary of Dakota. It is nearly sixty miles long by fifteen wide, and is surrounded by sandy beaches, which make it admirably suited for bathing. The surroundings are very fine, and the place is already a great summer resort.

Lake Michigan is said to be moving westward and leaving Michigan, due to the action of the tides.

Lake of the Woods contains numerous wooded islands. Wild rice grows in its vicinity.

RIVERS.

15. Perhaps no region in the world is so bountifully supplied with navigable streams. The *Missouri* and the *Mississippi* spread their hundred giant arms in every portion of the vast surface. All the navigable streams are the scenes of active trade, and are covered with steamboats and river craft.

The greater portion belongs to the Mississippi system; the northern portion belongs to the St. Lawrence system.

There is supposed to be a subterranean river extending under Lakes Superior, Michigan, Huron, and emptying into Lake Ontario.

Name.	Length. Miles	Area of Basin. Sq. Miles.	Miles of Navigation.
Mississippi	4,200	1,197,000	2,200, to St. Paul.
Missouri	2,900	518,000	2,600, to Ft. Benton.
Ohio	950	214,000	950, to Pittsburg.
Cumberland	600	17,000	200, to Nashville.
Tennessee	800	41,000	270, to Florence.
Kentucky	260		102, 40 miles above Frankfort.
Scioto	200		130, to Columbus.
Wabash	550	12,000	300.
Illinois	600		245.
Red River of the North.	650	32,000	
*Platte	450	300,000	Not navigable.

*This is a broad, shallow stream of water, and changes its bed frequently. Including the north fork it measures 1,250 miles.

SOIL.

16. These states contain the most extensive tracts of fertile soil in the United States, and seem destined to be the granary of millions of people. The northern peninsulas of Michigan, western Nebraska, and portions of Dakota are nearly sterile.

CLIMATE.

17. The climate is marked by its extremes in temperature, especially in the north-west, where these sudden winter storms, accompanied by blinding snow and sleet, originate. They are known as "blizzards." Desolating hurricanes and cyclones frequently occur in the prairie regions.

The cold is severe in the northern parts, and, in general, the temperature is lower than in the same parallels of latitude on the Atlantic coast. Bilious and intermitent fevers are among the most common diseases; in some parts there is considerable ague. Pulmonary complaints are rare, especially in the northern states of Minnesota and Wisconsin, where the air is very pure and the temperature even.

VEGETABLE PRODUCTIONS.

18. The largest deciduous trees of the American forest east of the Rocky mountains is the occidental plane tree, popularly known under the various names of sycamore, button-wood and cotton-tree.

It attains its greatest size in the Western States, sometimes rising with a trunk from ten to fifteen feet in diameter, to the height of seventy feet before it begins to give out branches.

The cotton-wood, a species of poplar, which abounds on the western rivers, attains the height of eighty feet. It receives its name from

its bearing downy matter resembling cotton. The tulip-tree, or white-wood, also called poplar; the black walnut, the butternut, the sugar-maple, pecan, various species of oak, etc., are common.

The paw-paw is a shrub or small tree, which bears an oblong yellowish fruit resembling a cucumber, with a soft and edible but insipid pulp.

The locust tree is a beautiful ornamental tree, and useful in the arts on account of the hardness and durability of the wood.

In the northern states there are immense forests of pine. In the central portions the chestnuts are common on the hills.

This section is the greatest agricultural region of the United States, producing immense quantities of wheat, corn, oats, barley, rye, potatoes, tobacco, orchard fruits, cattle, horses, sheep, and hogs. Kentucky takes the lead in tobacco and hemp, among the states of the Union.

MINERALS.

19. Lead is very abundant in Missouri, Illinois, Iowa, and Wisconsin. Iron is mined chiefly in Ohio, Missouri, and northern Michigan. The iron and copper of Lake Superior are not only among the richest deposits of these metals, but rank with the best in the world.

Perhaps the largest deposit of iron in any one place is found in Missouri, in Iron Mountains and Pilot Knob.

It is said that the former contains iron sufficient to build a railroad thirty-three times around the world, and to supply it with all necessary rolling stock.

Bituminous coal covers an area of many thousand square miles. Salt is obtained in many places, but especially in Kentucky, Ohio, and Michigan. Petroleum exists in considerable quantities in north-eastern Ohio. Building stones of all kinds are abundant.

MANUFACTURES.

20. These are extensive and flourishing in nearly all parts, and consist chiefly of agricultural implements, furniture, lumber, flour, pig-iron and iron castings, salt, wooden and willow wares, machinery, cars, etc. Michigan ranks as the first state in lumber, and second in iron ore.

COMMERCE.

21. This is almost wholly inland, but is very extensive, and is carried on by means of canals, rivers, and the numerous railroads which intersect this section in every direction. The trade upon the lakes is large. The exports are mainly the products of the soil; the imports are goods from the eastern cities.

NATURAL ADVANTAGES.

22. The pupil should now be required to give the advantages from what he has learned: 1st, for agriculture; 2d, for manufacturing; 3d, for commerce.

ANIMALS.

23. The wild animals indigenous to the country are no longer common. The brown bear, deer, elk, cougar, wild turkey, etc., are occasionally met with in the unsettled regions. The smaller animals, such as squirrels, rabbits, weasels, minks, badgers, ground-hogs, skunks, snakes, etc., are still to be found in nearly all parts. The domestic animals common in the older states prevail here. Many hogs, sheep, and cattle are raised here.

INTERNAL IMPROVEMENTS.

24. These are numerous and valuable. Many of the most important lines of railway lie wholly or largely within these states. Nearly every important town has railroad communications. Agriculture is carried on mainly by means of the most improved machinery, and is no longer a drudge work.

The public roads are in general good, and travel is rendered easy and pleasant. Bridges and public buildings of great cost and elegance are scattered throughout this region.

INHABITANTS.

25. The inhabitants are descendants of almost every European country, and of every Atlantic state. There are separate communities of French, Welsh, Germans, and Swiss, and there are many English, Scotch, and Irish citizens. Ohio and Indiana are peopled principally from New England, and Kentucky from Virginia and North Carolina. There are many negroes in Kentucky and Missouri.

Amidst a population so variously composed, and of so recent origin, we cannot expect to find many prevailing characteristics. The English language and American habits and manners are, however, rapidly moulding all into one homogeneous mass.

NUMBER OF INHABITANTS.

State.	Population, 1870.	Population, 1880.	White.	Colored.	Population, Sq. mile.
Kentucky	1,321,000	1,649,000	1,377,000	271,000	41
Ohio	2,665,000	3,198,000	3,118,000	80,000	78
Indiana	1,939,000	1,978,000	1,939,000	39,000	55
Illinois	2,540,000	3,078,000	3,031,000	46,000	55
Michigan	1,118,000	1,637,000	1,615,000	15,000	28
Wisconsin	1,055,000	1,315,000	1,312,000	2,700	24
Minnesota	440,000	781,000	780,000	1,600	9 7-10
Iowa	1,194,000	1,625,000	1,615,000	10,000	30
Missouri	1,721,000	2,168,000	2,023,000	145,000	31
Kansas	364,000	996,000	952,000	43,000	12
Nebraska	123,000	452,000	450,000	2,000	6
Dakota	14,000	135,000	133,000	2,000	1

OCCUPATION.

27. Agriculture is the chief employment of the people, but manufacturing, mining and commerce engage many of the inhabitants. Ohio, Indiana, and Illinois rank among the first states of the Union in the value of their manufactures.

LANGUAGE.

28. The English is the dominant language everywhere. French is spoken in a few places in Wisconsin and Illinois; and the Swiss, Germans, and Welsh in many places retain their own language.

EDUCATION

29. Excellent school systems have been inaugurated in all these states, and education is general among all classes. Many superior schools of a high order exist. The state schools are doing a grand work, and a common school education is within the reach of all. Chief among the colleges may be mentioned, the State University of Michigan, at Ann Arbor; Indiana State University, at Bloomington; De Pauw University, at Green Castle; Wisconsin State University, at Madison; and Chicago University, at Chicago.

RELIGION.

30. The usual religious denominations of the United States prevail here.

CITIES.

31. These are already numerous, and many hold a respectable rank among the great cities of our country and the world. *Chicago*, on Lake Michigan, is the largest and most important. It is the great center of wheat, corn, and pork markets. It ranks as the second grain market of the world, and first in the Union in pork packing.

Cincinnati, on the Ohio river, is the center of a large trade. It is regularly laid out and well built. It contains a number of beautiful parks, of which Eden Park is the most famous, containing 220 acres, and affording magnificent views. It is also noted for its arts and fashions, and is thus sometimes styled the "Paris of America."

St. Louis, on the Mississippi, is the first city in the Union in the manufacture of flour, and third in manufactures in general. It has a fine business situation

Milwaukee, on Lake Michigan, has a beautiful situation and carries on an extensive trade. The bricks used are a delicate cream color, which give to the city a peculiar but fine appearance.

Detroit is a fine city, on the Detroit river. Its lake commerce is large. The water works contain the largest pumping engine in the United States.

Louisville is the largest tobacco market in the world, and has one of the deepest Artesian wells on the earth.

Cleveland is a beautiful city, on Lake Erie. It has immense manufactures of iron and refined oil. The city was named after Gen. Moses Cleveland, who laid it out in 1796.

Minneapolis and *St. Paul* are called "The Twin Cities."

Duluth is styled the "Zenith City."

Bayfield, a popular summer resort in northern Wisconsin, is known as "the village of fountains," as almost every house has its natural fountain, supplied by springs on the height overlooking the village.

Cities.	Population.	Cities.	Population.
KENTUCKY.		<i>Muskegon</i>	11,000
<i>Louisville</i>	124,000	<i>Lansing</i>	8,000
<i>Covington</i>	30,000	WISCONSIN.	
<i>Newport</i>	20,000	<i>Milwaukee</i>	116,000
<i>Lexington</i>	17,000	<i>Racine</i>	16,000
<i>Paducah</i>	8,000	<i>Oshkosh</i>	16,000
<i>Frankfort</i>	6,000	<i>LaCrosse</i>	14,000
OHIO.		<i>Madison</i>	10,000
<i>Cincinnati</i>	255,000	MINNESOTA.	
<i>Cleveland</i>	160,000	<i>Minneapolis</i>	47,000
<i>Columbus</i>	52,000	<i>St. Paul</i>	41,500
<i>Toledo</i>	50,000	<i>Winona</i>	10,000
<i>Dayton</i>	39,000	<i>Stillwater</i>	9,000
<i>Springfield</i>	21,000	IOWA.	
<i>Zanesville</i>	18,000	<i>Des Moines</i>	22,500
<i>Akron</i>	16,500	<i>Dubuque</i>	22,000
<i>Sandusky</i>	16,000	<i>Davenport</i>	22,000
INDIANA.		<i>Burlington</i>	19,000
<i>Indianapolis</i>	75,000	<i>Council Bluffs</i>	18,000
<i>Evansville</i>	29,000	<i>Keokuk</i>	12,000
<i>Ft. Wayne</i>	27,000	<i>Cedar Rapids</i>	10,000
<i>Terre Haute</i>	26,000	MISSOURI.	
<i>New Albany</i>	16,000	<i>St. Louis</i>	351,000
<i>La Fayette</i>	15,000	<i>Kansas City</i>	56,000
<i>South Bend</i>	13,000	<i>St. Joseph</i>	32,500
<i>Richmond</i>	13,000	<i>Hannibal</i>	11,000
ILLINOIS.		<i>Sedalia</i>	10,000
<i>Chicago</i>	503,000	<i>Jefferson City</i>	5,000
<i>Peoria</i>	29,000	KANSAS.	
<i>Quincy</i>	27,000	<i>Leavenworth</i>	17,000
<i>Springfield</i>	20,000	<i>Topeka</i>	15,000
<i>Bloomington</i>	17,000	<i>Atchison</i>	15,000
<i>Rockford</i>	13,000	<i>Lawrence</i>	9,000
<i>Aurora</i>	12,000	NEBRASKA.	
MICHIGAN.		<i>Omaha</i>	31,000
<i>Detroit</i>	116,000	<i>Lincoln</i>	13,000
<i>Grand Rapids</i>	32,000	<i>Nebraska City</i>	4,000
<i>Bay City</i>	21,000	DAKOTA.	
<i>East Saginaw</i>	19,000	<i>Yankton</i>	3,000
<i>Jackson</i>	16,000	<i>Deadwood</i>	4,000

ANTIQUITIES.

32. There are numerous remains of antiquity in the Western States, which are supposed to have been the work of populous tribes who preceded the present race of Indians. These consist of mounds and inclosures of various forms. They are found at a number of places in Ohio, Illinois, and other parts. Very extensive works of this kind are also found in Mississippi. The mounds were formerly used as burial places, and the enclosures for military purposes.

HISTORY.

33. The first discovery within the Western States was made by De Soto and his party, in 1541, who went as far north as New Madrid, in Missouri. The first settlements were those of the French, in the region of the northern lakes and down the Mississippi. Kentucky was settled in 1770, and Ohio soon after.

ORIGIN OF NAMES OF STATES.

Ohio is an Indian word, meaning "beautiful." The state derived its name in 1791, from its southern boundary.

Kentucky was named in 1792, from its principal river.

Illinois was so called in 1809, from its principal river. The word signifies the "river of men."

Indiana was so called in 1809, from the American Indians.

Missouri obtained its name in 1804, from its chief river, an Indian word, meaning "muddy water."

Michigan was so called in 1802, from the lake on its border. It is an Indian name, meaning "a river for fish."

Wisconsin was named from its principal river, an Indian name, meaning "wild, rushing river."

Iowa obtained its name from its chief river. It is also an Indian word, signifying "the sleepy lines."

Minnesota is also another Indian word, meaning, "the whitish water."

Nebraska derived its name from the Nebraska river, an Indian name, meaning "flat water."

Dakota is an Indian word, meaning "allied."

Kansas is an Indian name, meaning "the smoky water."

West Virginia, so called after Virginia.

CHAPTER VIII.

OHIO.

MAP EXERCISES.

Locate the following:

BAYS.

Maumee and Sandusky.

ISLANDS.

Kelley's, North Bass, Middle Bass, and South Bass.

RIVERS.

Scioto, Miami, Maumee, Sandusky, Cuyahoga, Grand, Hocking, Muskingum, Mahoning, Blanchard, and Tuscarawas.

CITIES.

Cincinnati, Cleveland, Columbus, Toledo, Dayton, Springfield, Zanesville, Akron, Sandusky, Mansfield, Youngstown, Chillicothe, Circleville, Xenia, Newark, Lancaster, Lima, Massillon, Canton, Tiffin, Fremont, Steubenville, Gallipolis, Marietta, Portsmouth, and Ironton.

MISCELLANEOUS.

What counties border upon Indiana? upon Michigan? Lake Erie? Pennsylvania? What counties are separated from West Virginia by the Ohio river? from Kentucky? Name the counties through which the water-shed passes. Through what counties do the following rivers flow? Scioto, Miami, Maumee, Blanchard, Sandusky, Cuyahoga, Grand, Mahoning, Muskingum, Hocking? Which is the most southern county in the state? the most northern? the most central? What county in the north-east? in the north-west? in the south-west? which is the largest county? the smallest? the most populous? Name the counties in which the largest cities are found? Bound your own county, and name its principal streams, towns and products. What counties are in your congressional district? What large towns on the Scioto? on the Miami? Maumee? Sandusky? Muskingum? Hocking? Name some of the leading railroads. By the scale of miles, what is the distance of the following cities from Cleveland: Sandusky, Toledo, Zanesville, Cincinnati, Steubenville? What is the difference of time between the eastern and western boundaries of the state?

DESCRIPTION.

POSITION.

1. This flourishing state belongs to the group of North-Central States, and is bounded on the north by Michigan and Lake Erie; on the east by Pennsylvania and West Virginia; on the south by West Virginia and Kentucky; and on the west by Indiana.

LATITUDE AND LONGITUDE.

2. It extends from $38^{\circ} 35$ min. to 42° north latitude, and from $80^{\circ} 30$ min. to $84^{\circ} 45$ min. west longitude.

EXTENT.

3. The longest distance east and west is 225 miles; north and south, 205 miles. Area, 41,060 square miles.

DISTANCES.

4. From Columbus on an air line.

Toledo	140 miles.	Cincinnati	115 miles
Sandusky	132 "	Portsmouth	88 "
Cleveland	155 "	Marietta	91 "
Mansfield	61 "	Steubenville	131 "
Springfield	41 "	Zanesville	52 "
Lima	52 "	Canton	105 "

COAST.

This state has above 150 miles of coast upon Lake Erie. This extent embraces several harbors.

Sandusky Bay, on the west, is fifteen miles in length, and from three to five wide; it communicates with the lake by a narrow strait, and affords an excellent harbor.

The *Bay of Maumee* is in the western extremity of the lake. The harbor of Cleveland, at the outlet of the Ohio Canal, and that of Ashtabula, farther east, are frequented by steamboats and other lake craft.

ISLANDS.

6. Kelley's and the Bass islands are the only islands of importance. They are noted for their grapes and wines.

They are visited by many people during the summer, and Put-in-Bay contains an interesting cave—Perry's cave.

SURFACE.

7. The central portion of this state is a table-land, having an average altitude of 1,160 feet; from this the surface slopes to the Erie basin on the north, and the Ohio on the south.

The highest land is found in Logan county, 1,540 feet above the sea-level. The south-eastern part of Richland county contains hills 1,475 feet high.

The northern or Erie plain descends more rapidly in ridges which conform to the course of the lake shore.

It is supposed by some that Lake Erie at one time extended to the watershed, and that these ridges mark the successive boundaries of the lake.

While there are no mountains, the southern and south-eastern parts are much broken by rugged hills. In the northern and north-western parts there are some extensive marsh regions.

VALLEYS.

8. There are numerous valleys along the rivers, which are very fertile.

NATURAL CURIOSITIES.

9. Among these are the ancient mounds near Circleville, Marietta, etc.; the deep canons of the Hocking river; the picturesque valley of the Grand river; and the natural fountains of Bryan, Williams county. A number of water-falls and small caves exist at various places. A journey on the Ohio river presents scenery of surpassing loveliness and magnificence. Some of the scenery in the hilly regions is fine; however, Ohio is not, in general, noted for her natural curiosities.

MINERAL SPRINGS.

10. The *Yellow Springs*, in Green county, sixty-four miles north of Cincinnati, have been used with advantage in cases of chronic diseases. The waters are chalybeate, and have a temperature of 52°.

The *Delaware White Sulphur Springs* are similar to the sulphur springs of Virginia.

Those of *Green Springs*, in Seneca county, have become famous for their medicinal qualities.

LAKES.

11. *Lake Erie* is about 240 miles long, with an average breadth of forty miles, though in the widest place it is fifty-eight miles. The greatest depth is 270 feet; the average depth is 120 feet, and the surface is 565 feet above the sea. It is subject to violent storms at some seasons of the year.

There are several artificial lakes or reservoirs in the interior; the largest are Saint Mary's and Laramie; the former is the largest of its kind in the world, covering an area of 17,000 acres; it is a feeder to the Miami canal.

RIVERS.

12. Ohio is well watered. The rivers flow from the water-shed to the lake and to the *Ohio*. The latter washes the southern border of the state, affording great advantages for navigation. The rivers emptying into this are the *Miami*, *Little Miami*, *Scioto*, *Hocking*, *Muskingum*.

The *Maumee*, *Sandusky*, *Cuyahoga*, and *Grand* rivers are the largest emptying into the lake.

The only navigable rivers within the state are the *Maumee*, for large boats as far as South Toledo, and sixty miles for smaller boats; the *Scioto* to Columbus, 130 miles; and the *Muskingum* to Dresden, ninety-five miles.

Length.		Length.	
Ohio	950 miles.	Maumee	180 miles.
Miami	200 "	Sandusky	150 "
Scioto	200 "	Cuyahoga	100 "
Hocking	125 "	Grand	100 "
Muskingum	120 "		

The last named river is celebrated for its picturesque valley.

SOIL.

13. Nine-tenths of the surface of this state is susceptible of cultivation. The intervals of rivers are highly fertile. In the interior are large tracts of the most fertile land in the country.

The prairies produce no timber except a few scattered trees, and now and then a small grove. Some of the lands which were formerly called barrens, are found to be the best lands in the state.

The marshy tracts have an excellent soil and will ere long become the finest farming land of the country. The rugged hillsides have a thin and sterile soil.

CLIMATE.

14. On account of the general elevation of the surface, the temperature is several degrees lower than in the Atlantic regions in the same parallels. The climate is salubrious, but subject to extreme changes. The winters are often severe, and the Ohio has been frozen at Cincinnati for two months. The summer is subject to tornadoes, but the autumn is always temperate, serene, and pleasant.

In the southern part the climate is more equable than in the interior, and there is but little snow; in the north the snows are deep, and there is much sleighing in winter.

The mean annual temperature in the northern part is 50°; in the central part 51°; and in the southern part 54°. The average rain-fall is thirty-two inches along the lake, and forty-four inches at Cincinnati.

The lowlands are subject to fevers and ague.

VEGETABLE PRODUCTIONS.

15. Ohio occupies a leading position in nearly every branch of agricultural industry. The Western Reserve is famous for its stock and dairy products. Wheat, corn, oats, barley, rye, tobacco, potatoes, are immense crops. Apples are raised everywhere, but most abundantly in the Miami Valley, and Western Reserve.

It also ranks among the first in the value of its live stock, butter, cheese, and wool. Extensive vineyards occur in the south-west and on the shores of Lake Erie, with its islands.

Owing to the influence of the lake, frosts do not happen on the islands and along the shore until late in the fall, so that many delicate varieties of grapes can be produced.

The forest trees are oak, hickory, chestnut, beech, maple, walnut, sycamore, etc.

MINERALS.

16. The four most important of all mineral productions—coal, salt, iron, and limestone—abound.

The iron district covers an area of about 10,000 square miles, and,

with the coal measures, occupies the eastern and south-eastern parts of the state.

The coal fields cover an area of 11,000 square miles, and contain some of the finest seams yet discovered. Marble and free-stone, well adapted for architectural purposes, and gypsum occur.

Salt Springs are numerous, and the brine is strong.

The north-eastern part of the state shares the rich oil regions of Pennsylvania.

MANUFACTURES.

17. Ohio ranks as the fifth state in the Union in the value of her manufactured products. Her iron works are the most important. The domestic fabrics are considerable, and there are large manufactures of cotton and woolen goods, glass, paper, lumber, cars, carriages, machinery, leather, furniture, boots and shoes, harness, cement, paints, etc. In the manufacture of agricultural implements Ohio surpasses every other state except Illinois.

COMMERCE.

18. The advantages for trade which are secured by the local position of this state may be perceived by glancing at the map. The Ohio affords direct intercourse with all the country in the valley of the Mississippi; while by means of Lake Erie on the north it communicates with Canada and New York. Many trunk lines of railway cross the state, and thus afford an outlet for the interior parts of the country. Cincinnati, Cleveland, Toledo, and Sandusky are ports of entry. The commerce of Ohio is very extensive.

NATURAL ADVANTAGES.

19. The pupil should be required to give the natural advantages according to preceding models.

INTERNAL IMPROVEMENTS.

20. The first railroad (the Mad River Road) was begun in 1835. In 1886 there were 9,000 miles, ranking next to Illinois.

This state has 654 miles of canals proper, thirty-six miles of feeders, and the Muskingum has been made navigable ninety-five miles to Dresden.

The *National Road* passes through the state from Wheeling westward.

Several fine bridges cross the Ohio and other streams.

Institutions of public charity are well provided.

ANIMALS.

21. The original wild animals are seldom met with at present. Deer, bears, minx, wild cats, panthers, are occasionally seen in the sparsely settled regions.

Foxes, rabbits, squirrels, raccoons, opossums, ground-hogs, skunks, weasels, musk-rats, bats, moles, grouse, pheasants, ducks, quail, snipe, hawks, owls, turkey buzzards, and crows are common.

Singing birds are numerous.

Of reptiles there are several species of snakes, frogs, toads, lizards, and tortoises.

The Maumee is said to be the most prolific fishing stream in the United States.

INHABITANTS.

22. The settlers of this state were mainly from New England, and society here is of a somewhat New England character. There is, however, a large foreign population, principally in the cities.

The total number of inhabitants in 1880 was 3,198,000.

OCCUPATION.

23. Agriculture is the leading pursuit. Manufacturing and mining are diligently carried on. Commerce and the fisheries give employment to many thousands.

LANGUAGE.

24. This is chiefly English, but there are many German settlements whose people use their native language. The Welsh is used in a few localities.

GOVERNMENT.

25. The state is divided into eighty-eight counties. The governor is elected for a term of two years. The general assembly consists of a senate of 37 members and a house of 110 representatives, both elected for two years.

The state is divided into nine common pleas districts, each of which is divided into three parts, each part electing one or more of the judges.

The state is also divided into two United States judicial districts, the northern and southern, the courts being held in Cincinnati, Cleveland, and Toledo.

According to the last apportionment, Ohio has twenty-one congressional districts. The enacting clause of the laws is as follows: "Be it enacted by the General Assembly of the State of Ohio."

EDUCATION.

26. The education of the youth is well cared for. No state affords superior advantages. The whole system is presided over by a state board of examiners, with county secretaries, by a state commissioner, and by local superintendents, and board of education. More than one million of children attend school.

Ohio has thirty-six colleges and universities, two law schools, ten schools of medicine, and nine of theology. Delaware, Oberlin, and Wooster are the principal colleges of the state.

The Miami University at Oxford, Ohio University at Athens, and the Ohio State University at Columbus, are supported by the state.

There are no state normal schools, but several of importance are conducted by private enterprise; prominent among these are the Ohio Normal University at Ada, and the National Normal at Lebanon.

RELIGION.

27. The principal religious denominations, beginning with the most prominent, are as follows: Methodist, Presbyterian, Baptist, Christian, Lutheran, Roman Catholic, German Reformed, Congregational, Evangelic, and Protestant Episcopal.

CHIEF CITIES.

28. *Cincinnati*, the "Queen City of the West," is the largest and most important city in the state. It is distinguished for its trade, schools, printing, and public gardens.

Cleveland is pleasantly located on Lake Erie, and is the second city in the state.

It is a beautiful city, well paved and lighted. Euclid avenue is pronounced the finest street in the world. It has extensive manufactures and a large trade.

Columbus, the capital, is situated on the Scioto river, near the center of the state.

It is well laid out with wide streets and possesses superior advantages for inland trade. The state house, city hall, the imbecile and lunatic asylums are magnificent structures.

Toledo is a very flourishing city near the mouth of the Maumee river. It has extensive trade, both on the lakes and inland.

The manufacturing establishments include the largest wagon works in America, besides numerous planing mills, sash and blind factories, foundries, machine shops, etc.

Dayton, on the Miami, is celebrated for the extent and variety of its manufactures.

The public buildings are elegant, among which may be mentioned the courthouse, built of white marble quarried in that vicinity. Great taste is displayed in the architecture of the private residences and the embellishment of the adjoining grounds. It is claimed to be the healthiest city in the United States.

Springfield, a beautiful city, the county seat of Clark county, is noted for its manufacture of farm implements, flour, iron castings, woolen goods, and carriages.

Sandusky is situated on the bay of the same name. Its wharves are constantly crowded by steamboats except in winter. It is the greatest fresh water fish market in the world.

The land upon which it is built rises gradually from the shore, which gives the city a fine appearance from the bay. It is built upon an immense bed of valuable lime-stone, out of which many of the buildings of the city are constructed.

Mansfield, Akron, Zanesville, Massillon, Lima, Youngstown, Xenia, and Newark are thriving manufacturing towns and centers of trade for rich farming communities.

The following gives the population of the principal towns of the state.

Towns.	Population.	Towns.	Population.
Cincinnati	255,000	Lima	8,000
Cleveland	160,000	Tiffin	8,000
Columbus	52,000	Lancaster	7,000
Toledo	50,000	Delaware	7,000
Dayton	39,000	Massillon	6,900
Springfield	21,000	Urbana	6,300
Zanesville	18,000	Defiance	6,000
Akron	16,000	Circleville	6,000
Sandusky	16,000	Piqua	6,000
Youngstown	15,000	Wooster	6,000
Canton	12,000	Galion	5,800
Hamilton	12,000	Norwalk	5,800
Steubenville	12,000	East Liverpool	5,600
Portsmouth	11,000	Pomeroy	5,600
Chillicothe	11,000	Findlay	5,500
Mansfield	10,000	Mt. Vernon	5,500
Newark	9,600	Marietta	5,400
Ironton	9,000	Alliance	4,600
Fremont	8,400	Kenton	4,400
Bellaire	8,000		

HISTORY.

29. The territory belonging to Ohio, including that of Indiana, was claimed by Virginia as embraced in her original patent. The north-eastern portion, along Lake Erie, containing what was called the Western Reserve, was claimed by Connecticut. Virginia ceded her territory to the United States in 1787, reserving a small portion for the payment of some state debts. The Connecticut claims were finally extinguished in 1800.

The French preferred a title to this whole territory, but they made no permanent settlements in Ohio. The country remained in possession of the Indians till April 7, 1788, when General Rufus Putnam, with a party from New England, planted a little colony at the mouth of the Muskingum, where Marietta now stands.

Another settlement was made the following year at Columbia, six miles above the present city of Cincinnati. Some French immigrants established themselves at Gallipolis in 1791. The country was much disturbed by Indian hostilities. After the disastrous campaign of General Harmer in 1790, and that of General St. Clair in 1791—he being defeated with great loss, in the western

part of the state—many of the affrighted inhabitants removed to Kentucky. But in 1795 the savages were effectually subdued by General Wayne, and from this time we may date the unexampled prosperity of the state.

In 1787 Ohio, together with Indiana, etc., was placed under a territorial government by congress; the whole being called the "Territory north-west of the Ohio." The first territorial legislature met at Cincinnati in 1799, under General Arthur St. Clair, the first governor. For a period the fame of this region for richness of soil and amenity of climate drew multitudes from the Atlantic coast.

In 1802 Ohio was erected into a state and admitted into the Union. The first General Assembly met in Chillicothe in March, 1803, and Edward Tiffin was elected governor. In 1816 the capital was removed to Columbus. In this year the crops of New England were cut off, and the most extraordinary impulse was given to emigration. Not only families, but whole villages, departed for this land of promise. The great thoroughfares to the west were crowded with troops of people, loaded with their entire stock of furniture. Thus a state but eighty years old has grown to a population of 3,200,000, and whose cities rank with the great cities of the earth. During the Rebellion Ohio furnished 317,000 troops to the Union army.

CHAPTER IX.

WESTERN STATES AND TERRITORIES.

MAP EXERCISES.

Locate the following:

CAPES.

Mendocino, Conception, Arago, Blanco, Perpetua, Disappointment, Flattery, Arena, Reyes.

BAYS.

San Francisco, Pablo, Suisun, Monterey, Shoal Water.

STRAITS AND SOUNDS.

Juan de Fuca, Puget Sound.

ISLANDS.

Santa Barbara.

MOUNTAIN RANGES.

Rocky, Cascade, Sierra Nevada, Coast, Bitter Root, Wind River, Wasatch, San Bernardino, Blue, Humboldt, Salmon River, Black Hills, Sierra Madre.

MOUNTAIN PEAKS.

Pike's Peak, Long's Peak, Fremont's Peak, Spanish Peaks, Lincoln, Uncompahgre, Shasta, Whitney, Lyell, Jefferson, Diamond, Three Sisters, Baker, St. Helens, Adams, Hood, Olympus.

PLAINS.

Great Interior Basin, Great Plains of the Columbia, Colorado, Llano Estacado or Staked Plain, Death Valley.

LAKES.

Great Salt, Utah, Yellowstone, Shoshone, Tulare, Owens, Walker, Klamath, Pyramid, Carson, Goose, Silver, Harney, Chelan.

RIVERS.

Sacramento, San Joaquin, Colorado, Columbia, Missouri, Snake, Yellowstone, Grand, Green, Gila, Little Colorado, Humboldt, Pecos, Canadian, South Platte, North Platte, Willamette, Milk.

CITIES.

Sacramento, San Francisco, Los Angeles, Oakland, San Diego, Stockton, Vallejo, Monterey, *Salem*, Portland, Umpqua, *Carson City*, Virginia City, *Olympia*, Seattle, Steilacoom, *Boise City*, *Helena*, *Cheyenne*, *Denver*, Leadville, Golden City, Boulder, *Salt Lake City*, Brigham City, *Santa Fe*, Albuquerque, *Prescott*, Tucson.

RELATIVE POSITION.

In what direction is Washington Territory from Nevada? from Montana? Utah from Wyoming? from Arizona? from Missouri? Salem from Prescott? from San Francisco? from Helena? from Denver?

TRAVELS.

What divisions would you cross in traveling by land from Olympia to Austin? to Denver? Sacramento? Cincinnati? Trace a water route from San Francisco to Olympia; to Pekin; to Adelaide.

Give abbreviations of names of states and territories of this section.

DESCRIPTION.

POSITION.

1. This section of the United States is bounded on the north by British America; on the east by Dakota, Nebraska, Kansas, Indian territory, and Texas; on the south by Mexico and Pacific ocean; and on the west by the Pacific.

LATITUDE AND LONGITUDE.

2. It lies between 102° and 124° west longitude, and between 31° and 49° north latitude.

EXTENT, ETC.

The following table exhibits the area of each division :

Names.	Gross Area. Sq. Miles.	Water Surface. Sq. Miles.	Land Surface. Sq. Miles.
California	158,360	2,380	155,980
Oregon	96,030	1,470	94,560
Washington	69,180	2,300	66,880
Idaho	84,800	510	84,290
Montana	146,080	770	145,310
Wyoming	97,890	315	97,575
Colorado	103,925	280	103,645
Utah	84,970	2,780	82,190
Nevada	110,700	960	109,740
Arizona	113,020	100	112,920
New Mexico	122,580	120	122,460
Total	1,187,535	11,985	1,175,550

COAST.

4. There are about 1,350 miles of sea coast; of which California has 800, and Oregon 300. The coast is much less broken than that of the eastern shores of the United States, but there are several excellent harbors; the best is the Bay of San Francisco. Oregon is rock-bound, and what few harbors she has are shallow and obstructed by sand-bars. *Puget Sound* furnishes some very fine shipping advantages.

CAPES.

5. Some of the capes are high and rocky, and some have light-houses.

INLETS.

6. *San Francisco*, the principal, is seventy miles long and thirty-five wide. Its entrance, called the "Golden Gate," is between a gap in the mountains, which come down in bold precipices to the shore; it is about two miles wide. The bay is divided by straits and projecting points into three parts, the northern being called *San Pablo* and *Suisan* bay.

Puget Sound penetrates Washington far inland, and is divided into several divisions, whose shores are so remarkably bold that large ships are able to ride close up to them and load and unload without the intervention of wharves. *Admiralty Inlet* connects Juan de Fuca with Puget Sound.

ISLANDS.

7. The only islands worthy of note are the *Santa Barbara*. They are eight in number, and imperfectly known. Many sea-birds are said to inhabit them.

The *Farallones*, a group of small islands, lie west of, and serve as landmarks to the entrance to San Francisco bay. They are frequented by numerous sea-fowl, which supply great quantities of eggs for the markets of San Francisco. They also contain an important lighthouse.

The *San Juan* islands lie between the Gulf of Georgia and the Strait of Fuca. They are rich in coal and limestone, and the adjacent waters abound in fish; besides there is much beautiful and fertile country. But their chief interest is derived from the dispute respecting their possession between Great Britain and the United States.

GENERAL CHARACTERISTICS OF THE SURFACE.

8. This section may be comprised into three divisions: the Coast Region, the Plateau Region, and the Rocky Mountain Region. The plateau states include Utah, Nevada, Arizona, and Idaho. The physical features are exceedingly varied. It is remarkable for its great mountains and extensive plains. We find here boundless wastes and fertile valleys, lofty peaks, lifting their summits far above the regions of eternal snows, and yawning caverns with stupendous walls of rock on either side.

MOUNTAIN RANGES.

9. The *Rocky* is the chief range. In it are many passes, some of which are several miles wide, and of such easy grade that railroads can be built through them without difficulty. The best known are South, Union, Poncho, Laramie, and Bridgers passes.

The *Cascade* range derived its name from the numerous cascades in it in the region of the Columbia river.

Sierra Nevada, meaning "snow-clad range," is well known for its picturesque scenery.

The *Coast* range lies near the coast, and is of less elevation than the others described. A number of minor ranges traverse this section in different directions.

MOUNTAIN PEAKS.

10. The following is a list of the principal peaks with their heights:

Name	Height.	Name.	Height.
CASCADE RANGE.		Lyell	13,217 feet.
Baker	10,500 feet.	Tyndall	14,386 "
Rainier	14,444 "	Dana	13,227 "
Olympus	8,138 "	ROCKY MOUNTAINS.	
Hood	10,200 "	Pike's	14,147 "
Diamond	9,420 "	Long's	14,271 "
Pitt	11,000 "	Fremont's	13,700 "
Jefferson	10,200 "	Harvard	14,383 "
Three Sisters	9,420 "	Yale	14,000 "
St. Helens	9,550 "	Uncompahgre	14,235 "
SIERRA NEVADA RANGE.		Lincoln	14,297 "
Shasta	14,440 "	Spanish	11,000 "
Whitney	15,000 "		

AREAS OF PLATEAUS.

Colorado	60,000 square miles.
Great Interior Basin	210,000 " "
Great Plains of Columbia	20,000 " "

PARKS.

11. The mountains of Colorado enclose a series of remarkable valleys, called "parks." Most of them are small, but some of the larger ones measure fifty miles across. The best known are *North*, *South*, *Middle*, and *San Louis* parks. Their areas are given below:

Parks.	Elevation. Feet.	Area. Sq. miles.
North	9,000	2,500
Middle	8,500	3,000
South	9,500	2,200
San Louis	7,000	8,000

NATURAL CURIOSITIES.

12. Much of the grandest natural scenery of the world is to be seen in this portion of the United States. From the summit of Pike's Peak the observer has a radius of 200 miles, containing some of the finest scenery the eye of mortal has ever beheld. The Great Canon of the Colorado has been described elsewhere.

The *Mammoth Trees* of California, found in the Sierra Nevada mountains, between 35° and 38° are among the greatest wonders of the vegetable kingdom. Some of these trees are thirty feet in diameter and from 250 to 300 feet high.

The lower course of the Columbia is everywhere grand, though of a gloomy character.

Mount Hood presents a vertical precipice 7,000 feet high.

The state of Colorado is celebrated for its fine views, mineral springs, and for the varied colors of the rocks.

The *Yosemite Falls*, on the Merced river of California, is, perhaps, the most remarkable cataract known. In three perpendicular leaps the water falls a distance of 2,550 feet; the highest is over 1,350 feet.

But nowhere in the world are so many objects of interest crowded into so small a space as in the *National Park*. It abounds in mountains and valleys, interspersed with beautiful lakes, deep canons, and lofty cataracts, thundering geysers and peaceful rivers, lakes of mud and limpid waters, petrified forests, mineral springs, lovely parks, hemmed in on all sides by mammoth walls of rock; in short, everything that one could imagine of the grand and sublime in nature.

The Park occupies the north-west corner of Wyoming, with small portions of Idaho and Montana, and was set apart by the United States Congress as a National Park or pleasure ground. It is sixty-five miles long, fifty-five wide, and has an area of 3,575 square miles.

The *Gates of the Rocky Mountains* is a narrow gorge through which the Missouri river flows, 400 miles from its source. It is five and three-fourths miles long, 450 feet wide between perpendicular walls of rock 1,200 feet high. For three miles there is but one place in the gorge where a foot-hold can be obtained.

The *Great Falls of the Missouri*, near the center of Montana, are 145 miles below the "Gates," and consist of four cataracts, respectively of twenty-six, forty-seven, nineteen and eighty-nine feet perpendicular descent, and separated by rapids. They are among the most picturesque in America.

California contains five natural bridges, each of which is worth seeing.

The *Sierra Nevada* mountains furnish an endless panorama to the lover of the grand and beautiful in nature.

Throughout this vast area are many objects of great interest, but which we have not time or space to describe.

LAKES.

13. These are numerous but not large. *Great Salt Lake*, the best known, is too shallow to afford extensive navigation. The western shore consists of level plains of deep, soft mud, traversed by rills of salt and sulphur water.

These plains are destitute of vegetation, except small shrubs, which are covered with particles of salt shining in the sun. Curious optical illusions are here presented, arising from mirage, which distorts objects in a most grotesque manner.

In one place is a field of solid salt, incrustated upon the mud, so as to bear up mules, like ice.

The water contains about twenty per cent. salt, and is so heavy a man cannot sink in it.

Lake Tulare is a fine body of water in the southern part of California, covering an area of 500 square miles. The beautiful *Lake Tahoe* is like a crystal set in the mountains, and is the highest navigable water in North America, being 6,350 feet above the sea-level. Other lakes are *Mono*, *Klamath*, *Goose*, *Harney*, etc. Some of these lakes are celebrated for their beauty, and for the great quantities of fish they contain.

RIVERS.

14. There are several long rivers; however, few of them furnish much navigation. The *Columbia* abounds in numerous cataracts, and is remarkable for its salmon and trout; large numbers of these are taken annually. The *Colorado*, with its deep canons, is not adapted to afford commercial facilities.

The following are the chief rivers :

Name.	Length. Miles.	Area of Basin. Sq. miles.	Miles of Navigation.
Columbia	1,400	338,000	With interruption 725
Sacramento	350		250
San Joaquin	400		120
Missouri	2,900	518,000	2,600
Snake	1,050		160
Yellowstone	1,100		300
Gila	650		
Grand	356		
Colorado	1,050	223,000	500
Rio Grande	1,800	240,000	500

SOIL.

15. The soil, in general, is not fertile. Nearly all the plateau region is sterile, except some of the river valleys. Good crops, however, may be obtained in many places by irrigation.

The *San Joaquin* valley is one of the finest and most productive regions in the world. There are many other fertile valleys. The *Llano Estacado* lies partly in this section, and is an almost treeless region, but contains some fine pasturage, upon which wild cattle and the bison feed.

This plain covers an area of over 40,000 square miles, and is said to have been named from the stakes which were placed there by the Santa Fe traders, as land-marks to guide them on their way to the Gulf.

In a region so extensive we may naturally expect a great diversity of physical aspects, but here there seems to be unusual irregularity. It embraces the most rugged mountain peaks in the United States, their tops covered with perpetual snow, looking down upon deserts scorched by the summer sun; volcanic fires bursting from cones of eternal ice; valleys of unbounded fertility, and large spaces of desolate rock, sand, or gravel; mighty rivers of fresh water finding their way to the sea; salt lakes imprisoned between rocky, barren, and impassable wastes; with ridges of everlasting sterility, yet sparkling with profusion of choice minerals.

CLIMATE.

16. The Plateau Region has a dry climate. The western mountain ranges intercept the moisture-laden winds from passing over them and distributing the rains over the sun-parched region.

On the Pacific coast it is much warmer than in corresponding latitudes in the eastern states, owing to the warm ocean current. The climate of the interior is dry and pure, and, though subject to sudden

and extreme changes of temperature, is thought to be beneficial to those troubled with pulmonary complaints. The days here become very hot, while during the night it often freezes. Arizona contains the hottest climate in the United States. In the extreme north the cold of the winter is severe. The snow line is reached in Colorado at an elevation of about 13,500 feet.

AGRICULTURAL PRODUCTIONS.

17. In the cultivated regions there are wheat, corn, barley, hops, peanuts, grapes, fruits, etc. In the southern parts melons of superior quality are raised. Oregon and Washington are important grazing countries. Their extensive plains, while they are not suitable for tillage, are excellent pasture lands. Wheat and fruits are important crops. California is especially noted for her superior fruits of all kinds, and for her extensive vineyards.

Owing to the lack of moisture, the regions of the interior can never become great agricultural states.

MINERALS.

18. These are of great variety and of the highest importance. California is the first in the Union in the production of gold, and Colorado in silver. The quick-silver mines of New Almaden, California, are the richest in the world. Iron, lead, copper, and tin are found in places. The state of Nevada contains the largest deposit of rock salt in the United States. It is called the "Muddy Salt Mine," and is two miles square. Coal exists in Colorado, California, Oregon, and Washington. Gold has been the object of the miner; other minerals have been very much neglected, so that we are still ignorant as to the amount and extent of the mineral wealth of this region.

19. The following table exhibits the report of the gold and silver yields according to the last census:

States.	Gold.	Silver.	Total.
California	\$17,151,000	\$1,151,000	\$18,302,000
Oregon	1,098,000	28,000	1,126,000
Washington	136,000	1,000	137,000
Idaho	1,480,000	465,000	1,945,000
Montana	1,806,000	2,905,000	4,711,000
Wyoming	17,000		17,000
Colorado	2,700,000	16,549,000	19,249,000
Utah	292,000	4,743,000	5,035,000
Nevada	4,888,000	12,431,000	17,319,000
Arizona	212,000	2,326,000	2,538,000
New Mexico	49,000	392,000	441,000

MANUFACTURES.

20. The manufactures of this section are yet comparatively unimportant. Those of California are the most valuable. They embrace flour, lumber, woollens. California blankets are noted for their fineness and durability. Wines, brandies, cigars, tobacco, and metallic wares are also manufactured to a considerable extent.

COMMERCE.

21. Several lines of ocean steamers run between San Francisco and other parts of the world. Extensive trade is carried on over the Pacific railways.

The leading exports are wheat, corn, fruit, raisins, wines, brandies, gold, silver. The imports are teas from China and Japan, coffee and spices from the East Indies, and manufactures from the eastern states.

NATURAL ADVANTAGES.

22. The pupil should be required to give these, following preceding models.

INTERNAL IMPROVEMENTS.

23. The Union Pacific railroad is the longest railway line in the world. Numerous other roads are being built in the different states and territories. Steamboats ply the navigable waters. Cities are springing up like magic, and the whole territory is rapidly filling up with an industrious population.

ANIMALS.

24. The grizzly bear, the puma, or California lion, mountain sheep, deer, foxes, wolf, birds of many kinds, fish, etc., are the principal wild animals.

INHABITANTS.

25. These consist mainly of immigrants from the eastern states and from Europe. There are about 100,000 Chinese, of which three-fourths are in California, and one-tenth in Oregon. Indians are still numerous, but many of them have become either wholly or partially civilized.

Name.	Population. 1870.	Population. 1880.	Per Cent of Increase.	Population. Sq. Mile.
California	582,000	865,000	35+	5½
Oregon	102,000	175,000	92+	2
Washington	37,000	75,000	213½+	1½
Idaho	20,500	33,000	129—	2-5
Montana	20,000	39,000	90—	1-3
Wyoming	11,500	21,000	128—	2-9
Colorado	47,000	194,000	388½	1½
Utah	99,000	144,000	66—	I 7-10
Nevada	58,700	62,000	46½	I 4-25
Arizona	41,000	40,400	decrease, 2½	⅓
New Mexico	110,300	120,000	29—	¼

OCCUPATION.

26. The absorbing occupation is that of mining. The gold is dug with rockers, pickaxes, hoes, spades, iron bars, etc.

Steam engines are at work, rivers are turned from their beds, and mountains perforated through their bowels. The best is obtained by washing or sifting the sand.

In many places powerful machines are used in crushing gold-bearing quartz rock.

The fertile valleys of California, and those of other places, have turned many away from the mines to farming, which is very profitable. So rapidly have the agricultural interests developed that California is the first state in the Union in the production of grapes, barley, and among the first in that of wheat, corn, and fruits; the latter are among the finest in the world. Of late years silk culture has received considerable attention. Stock farming is largely carried on. Ostrich farming has recently been introduced into southern California, and it is believed will prove successful.

LANGUAGE.

27. Here, as elsewhere in the United States, the English language prevails. There are many foreigners who speak the language of the country from which they immigrated. In New Mexico and Arizona the Spanish is spoken to some extent.

GOVERNMENT.

28. Four divisions of this section are states—California, Oregon, Nevada, and Colorado; the rest are territories. There is nothing especially peculiar respecting their government worthy of mention.

EDUCATION.

29. Liberal provisions are made for public instruction in these states. Owing to the sparseness of the population in many places

there is great difficulty in providing schools. In the public schools of California male and female teachers everywhere receive the same pay. Here as well as in Oregon are numerous colleges and universities. The State Normal School of California is at San Jose.

RELIGION.

30. The same churches which are found in the older states exist here. In Utah are many Mormons, a religious sect who practice polygamy.

CITIES.

31. *San Francisco*, the largest and most important city, is situated on one of the best and most convenient harbors in the world.

It stands on a plain about a half mile wide, inclining toward the bay, with swelling hills behind it. It presents one of the most remarkable examples of rapid growth ever recorded. In 1847 it had 450 inhabitants, while in 1880, thirty-three years afterward, it numbered 234,000 souls. The temperature, which is 56° average, varies but little. Not less than 5,000 vessels frequent its landing every year, and its commerce extends to all quarters of the globe.

Sacramento, the capital, on the Sacramento river, has fine advantages for trade, which have contributed mainly to its growth. It is a very prosperous city, well laid out with many fine gardens.

Los Angeles, "the city of angels," so called because of its pleasant climate, and beauty of its gardens, and the excellence of its fruits. It is the most populous city in southern California, and is in the midst of extensive vineyards. *Oakland* and *Vallejo*, both on good harbors, are fine cities.

Denver, the capital of Colorado, is noted for its rapid growth. In 1870 the population was 4,748; in 1880, 35,629. It commands a fine view of snow-capped mountains, is well built, and already contains an immense wealth.

Salt Lake City was laid out in 1847 by Brigham Young. It has an elevation of over 4,000 feet, and is inhabited chiefly by Mormons.

Leadville is a flourishing mining city, and is one of the highest cities in our country, being 11,000 feet above the sea-level.

Portland, *Seattle*, and *Olympia* are important places.

Cities.	Population.	Cities.	Population.
San Francisco	234,000	Carson City	4,200
Oakland	35, 0	Olympia	12,000
Los Angeles	11,000	Salem	2,500
Vallejo	9,000	Boise	1,900
Sacramento	21,000	Salt Lake City	21,000
San Jose	13,000	Helena	3,600
Prescott	1,800	Denver	36,000
Sante Fe	6,600	Cheyenne	3,500
Stockton	10,000	Leadville	15,000
Virginia City	11,000	Portland	18,000

HISTORY.

New Mexico, Arizona, Nevada, California, Utah, and the greater part of Colorado, belonged to the territory acquired from Mexico in the war of 1846-8. This whole region was then called California. The rest of this section of the United States formed a part of the "Louisiana Purchase." In May, 1792, Captain Robert Gray, in the ship *Columbia*, of Boston, discovered and entered the Columbia river, giving it the name of his vessel. In 1804-5 Lewis and Clarke, under the direction of our government, explored the country from the mouth to the source of the Columbia. From 1808 the country was occupied by one or more of our fur companies. On these and other grounds the United States claimed the territory up to the latitude 54 deg. 40 min. As the British traders had settled in the territory, the British government set up a rival claim, which caused a serious and threatening dispute. This was happily adjusted by a treaty in 1846, making the line of 49° our northern boundary. In 1853 the territory was divided.

The following table will be found useful:

Name.	Organized as a Territory.	Admitted as a State.
California		1850
Oregon	1848	1858
Washington	1853	
Nevada	1861	1864
Idaho	1863	
Montana	1864	
Wyoming	1868	
Colorado	1861	1876
Utah	1850	
Arizona	1863	
New Mexico	1850	

ORIGIN OF NAMES OF STATES.

California, a Spanish word, and named from an arm of the Pacific ocean.
 Nevada is a Spanish word, meaning "white as snow."
 Colorado means "red colored," a name derived from the Indians.
 Oregon means "river of west," another Indian name.

CHAPTER X.

ALASKA.

MAP EXERCISES.

Locate the following:

CAPES.

Prince of Wales, Barrow, Lisburne, Hope.

BAYS AND SOUNDS.

Bristol, Norton, Kotzebue, Dixon, Cook's Inlet.

ISLANDS.

Aleutian, St. Lawrence, Kadiak, Baranoff, Nunivak, Prince of Wales, Unalaska.

PENINSULAS.

Alaska, Kenai.

MOUNTAINS.

Alaskan, Yukon, Romanoff, St. Elias, Fairweather, Crillon, Wrangel.

RIVERS.

Yukon, Porcupine, Copper.

TOWNS.

Sitka, St. Paul, Captain's Harbor.

MISCELLANEOUS.

What is the direction of Sitka from Behring's Strait? New York? London? What is the time of day at Sitka when it is 1 P. M. at Columbus, Ohio? Give the latitude and longitude of Alaska. A traveler to Sitka finds his watch has gained $2\frac{1}{2}$ hours; what meridian did he start from?

DESCRIPTION.

LOCATION.

1. Alaska (great country) is a large peninsula in the north-west corner of North America, washed by the Arctic and Pacific oceans and their branches.

EXTENT.

2. It extends from 130° to 168° west longitude, and from 54° to $71\frac{1}{2}^{\circ}$ north latitude. The area, including the islands, is about 580,000 square miles.

COAST.

3. As much of the coast as is washed by the Arctic ocean and Behring's sea is for the most part low and swampy, or abounding in shoals and sand-bars, and contains few harbors; the remaining coast line is mountainous, with deep soundings. *Cape Prince of Wales* is a rocky and precipitous promontory, and Point Barrow is a low sand-bar, extending into the Arctic. The coast line, without the indentations, measures 4,000 miles.

ISLANDS.

4. Numerous islands (about 1,200) border upon the western and southern coasts. South of St. Elias is the *Alexander Archipelago*, consisting of 1,100 islands. Of the *Aleutian* (eighty-one in number, with an area of 6,400 square miles,) *Unimak* is the largest, and *Unalaska* is of the most commercial importance. Nearly all the islands of this group are volcanic, and are entirely destitute of timber, though many of them are covered with excellent pasture. Hot springs exist on several of them. The *Pribiloff* islands furnish nearly all the seal skins used in the world.

SURFACE.

5. The interior of Alaska has been only partially explored, but so far as known is mainly a hilly plateau, with several important mountain ranges. The *Alaskan* range, in the northern part, is the principal chain. Glaciers are numerous on the mountain sides. Sixty-one volcanoes are said to exist in Alaska and on the islands, of which ten are active. In the valley of the Yukon are large fertile plains and extensive marshes. The northern portion consists of vast tundras. The country is gradually rising.

MOUNTAIN PEAKS.

6. *Mount St. Elias* is regarded by some as the highest land in North America, its height being variously estimated from 16,000 to 19,500 feet. *Mt. Fairweather* has an altitude of about 15,500 feet. *Mt. Crillon* is a little lower. The Aleutian islands may be regarded as a continuation of the Alaskan range, but partly submerged.

RIVERS.

7. The principal river is the *Yukon*, 2,000 miles long, and navigable during the summer for about three-fourths its length; it is over a mile broad 600 miles above the delta. Several other streams, as the *Copper*, *Porcupine*, etc., exist; however, little of importance is known of them.

Lakes in the interior are said to be numerous.

SOIL.

8. Owing to the severity of the climate, the soil is mostly sterile. Kadiak island and several of the Aleutian islands contain the best soil where oats, barley, and root crops may be raised. The valley of the Yukon contains much fertile land, and excellent pasturage during the summer. A luxuriant vegetation is found in many places, when beneath the surface there is a layer of ice which never melts.

CLIMATE.

9. The climate is remarkable for its mildness, considering the high latitude. In the southern parts thick ice is not formed, and while the winters are foggy and dreary, the summers are sunny, dry and pleasant. Great quantities of rain fall along the coast.

Sitka is said to be the rainiest place outside of the tropics, there being from sixty to ninety inches of rain, and from 225 to 285 rainy days each year.

The warm climate of Alaska is referable to the warm ocean current. The mean temperature is about 44° Fahr.

PRODUCTIONS.

10. Heavy forests of pine, birch, and poplar cover large areas, and are very valuable. Cattle are raised with success. Oats, barley, root crops, and berries can be raised as far north as 67° north latitude. Cranberries are exported in large quantities, and the rivers, as well as the sea, are full of valuable fish.

It is said that the waves and floods cast enormous quantities of fish ashore, in heaps sometimes three or four feet high.

The agricultural resources can never furnish more than what is necessary for home consumption.

MINERALS.

11. Alaska seems to be rich in minerals. Coal, iron, copper, lead, petroleum, amber, garnets, gold, silver, etc., have been found, and some of these—as iron, coal, gold,—in large quantities. Sulphur is believed to be very plentiful.

ANIMALS.

12. The bear is the largest native animal. Others are the fox, beaver, otter, deer, lynx, musk-rat, martin, mink, and canvas duck. Myriads of ducks, geese, swans, gulls, eagles, and other migratory birds are found here. The rich berries of the interior furnish them excellent food.

The fur seal is the chief source of revenue. Whales, and other marine animals peculiar to northern waters, are common.

OBJECTS OF INTEREST.

13. Hot and mineral springs are abundant near Sitka, on the Aleutian islands, and in other parts. The fossil remains are peculiarly interesting; these show that Alaska was once the home of the elephant, the horse, and the buffalo. Fossil ivory is obtained. The vegetation during the summer resembles that of the tropics in richness and luxuriance.

INHABITANTS.

14. The native races are partly Esquimaux, and partly red Indians, with some intermixtures. The Whites, numbering about 400, are chiefly Russians and natives of the United States. Total population, 31,000.

EDUCATION.

15. There are no schools, save those established by a few missionaries. The natives are nearly all Pagans, and but little has yet been done to civilize them.

GOVERNMENT.

16. Alaska is an unorganized territory of the United States, and, as yet, little subject to government control.

TOWNS.

17. *Sitka* is the capital, on Baranoff island. Its inhabitants (500) are principally engaged in catching and curing salmon. There are also several saw-mills, a school-house, and a church.

St. Paul, on the Kadiak island, is surrounded by the finest farming land in the whole country. It is the main depot of the seal fisheries. *Captain's Harbor*, on Unalaska island, has a good anchorage. Besides these, several trading posts exist at various places.

The natives in some places live in large apartments under the ground; sometimes 150 live together in such a place; these are filthy, but preserve the inmates effectually from the weather.

HISTORY.

18. Alaska was formerly called Russian America. In 1728 Behring's Strait was discovered by Vitus Behring, and fully explored in 1788 by Captain Cook. In 1741 Tchirikoff discovered the American coast, and upon this the Russians founded their claim to the country. In 1804 Sitka (New Archangel) was founded. In 1825 the limits of the territory were defined by treaty between Great Britain and Russia. In 1867 it came into the possession of the United States, \$7,200,000 being paid for it by our government.

CHAPTER XI.

DANISH AMERICA.

MAP EXERCISES.

Locate the following capes: Farewell, Dan, Brewster, Bismarck, North.

Where is Disco island? What island on the north-eastern shore?

In what direction from Greenland is Iceland? What waters are on

the western coast of Greenland? What separates it from Iceland? Between what parallels of latitude do these islands lie? What is the capital? Name and locate the towns of Greenland. What noted volcano on Iceland? What is the nature of the surface of Greenland? Of Iceland? What isotherm crosses Iceland? What ocean currents in proximity? In which hemisphere is Iceland? About what is the length of its longest day?

DESCRIPTION.

POSITION.

1. Danish America is situated in the north-eastern part of North America, and is composed of the two islands, Greenland and Iceland. Iceland is properly a part of the continent of Europe, being connected with it by a submarine plateau only 1,500 feet from the surface of the sea. Because of its nearness to Greenland it is placed with America.

EXTENT.

2. The greatest length of Iceland is 300 miles, and the breadth 200. Area, about 40,000 square miles. Greenland has an area of 830,000 square miles.

COAST.

3. The eastern coast of Greenland is almost inaccessible on account of the drifting ice brought down by the Arctic currents. The western coast is generally rocky and high, but in some places descends to low valleys.

The coast of Iceland is very irregular, except on the south-east, where it is almost unbroken. This sea communicates with the Atlantic by Davis' strait, discovered by Davis in 1587.

The water of the numerous bays is, in general, deep, and furnishes many fine harbors. But navigation is rendered dangerous by the numerous rocky islets with which the coast abounds.

BAYS, ETC.

4. Baffin's bay is a large sea between Greenland and Prince William's Land. It was discovered by Baffin, an English navigator, A. D. 1616. It can be navigated only for a short time in summer, on account of the ice. Its shores are mountainous. The water is the resort of seals and whales.

ISLANDS.

5. Thousands of small islands surround the larger, but they are frozen and unimportant. Fisheries are carried on on some of them during the summer.

SURFACE.

6. The surface of both islands is high, rocky, and sterile. The elevated portions are covered with perpetual snow, and immense glaciers stretch toward the sea, where the overhanging masses frequently break off and form prodigious icebergs.

VOLCANOES.

7. Of these there are many in Iceland. The mountains take the general name of *Jokull*. The highest is *Oræfa*, 6,409 feet high. *Snæfell*, 5,965. *Hecla*, the noted volcano, is 5,110 feet in elevation, and has 100 geysers. There are thirty volcanoes, several of which are active, and destructive earthquakes are not uncommon.

NATURAL CURIOSITIES.

8. The most remarkable of these is the *Great Geyser*, which throws up jets of boiling water to a height of ninety to one hundred feet, with a noise like thunder.

The cause of this wonderful phenomenon is supposed to be the Volcano *Hecla*, to whose fires the water finds access, and being converted into steam produces the great display of power.

In the north of Iceland is a magnificent water-fall.

Nowhere in the world is the *Aurora Borealis* seen in such magnificent splendor as in this portion of the globe. It is often so bright as to cause the stars to disappear, and mirage is common on the coast.

LAKES AND RIVERS.

9. The immense reservoirs of ice and snow furnish abundant supply to the many lakes and rivers of Iceland. But the former are, in general, small, and the latter are far more remarkable for their number than for their length. A few have a length of from 100 to 150 miles. Very few streams exist in Greenland.

SOIL.

10. This is, in general, sterile, but in many places would be capable of producing good crops were it not for the severity of the climate.

CLIMATE.

11. The climate is variable; storms of great violence frequently occur. It sometimes lightens, but there is no thunder. The long winters are occasionally interrupted by thaws, which last for weeks at a time. The isotherms show an average temperature from 32° to 14° Fahr. During the summer the sun remains above the horizon so long that the climate becomes warm and pleasant, and mosquitoes abound.

In winter the sky during the day is dark and gloomy, but at night is rendered beautiful by brilliant displays of the Aurora Borealis.

VEGETABLE PRODUCTIONS.

12. Mosses, lichens, grasses, and shrubs grow even in the far north, and furnish food for the reindeer, musk-ox and bear. In the southern portions of Greenland the pine, elder, and birch attain a height of five to six feet. Potatoes can be grown in the south.

Forests formerly abounded in Iceland, but the island is now destitute of trees. The want of fuel is severely felt; the Gulf Stream and the polar currents bring considerable drift-wood to their shores, and fine white turf is used, as well as manure mixed with fish bones. The soil is full of roots. Beautiful varieties of flowers are found. Luxuriant pasturage, sprinkled with the loveliest flowers, covers the fertile regions. Oats and garden vegetables are produced in limited quantities.

MINERALS.

13. Iceland contains fewer minerals than Greenland. Sulphur is the only important product. Rock-crystals are common. Basaltic caves occur, some of them, it is said, might well be compared to Fingal's cave.

On Disco island good coal is mined in abundance, and at various places in Greenland are found silver, copper, iron, tin, lead, plumbago, zinc, arsenic, and other metals. The slates contain impressions of extinct tropical vegetation.

ANIMALS.

14. The principal wild animals are the white bear, which is large and strong, and when pinched by hunger will come to the cabins and attack the settlers. Reindeer, whose flesh and milk supply the inhabitants with food, and dogs, which are serviceable for drawing sledges, are numerous. Horses, cattle, sheep, and pigs are raised by the Iceland farmers. Sea fowls are plenty along the coast, and the seas swarm with fish. No reptiles exist on the land. The whale and seal-fisheries are particularly valuable.

MANUFACTURES.

15. There are few manufactures, and these consist of the simplest articles of home consumption.

COMMERCE.

16. This is quite limited, and consists in the exchange of butter, wool, furs, skins, fish, oil, sulphur, and Iceland mosses, for the few articles of necessity imported mainly from Denmark.

NATURAL ADVANTAGES.

17. The pupil should be required to give the natural advantages of Danish America.

INTERNAL IMPROVEMENTS.

18. There is nothing like a public road anywhere to be seen, and no vehicles are used. There are a few stone houses and some of mud, but the greater number are built of turf and lava blocks, thatched with sod, and in many places the people live in houses built from bricks made of snow. Fire is made only in the kitchen even in winter; the other rooms remaining damp and foul. The rigor of the climate is a great barrier to the development of internal improvements.

INHABITANTS.

19. The inhabitants are of Scandinavian origin, and speak a language resembling the old Norse. They are strongly attached to their country and are hospitable to strangers. The men are tall, fair complexioned, blue eyed, strong, hardened frame. The women are industrious and chaste. The Esquimaux are short and swarthy. There are about 250 white inhabitants in Greenland, mostly missionaries, and about 10,000 Esquimaux. The population of Iceland is 71,300.

OCCUPATION.

20. Some of the people are engaged in tilling the soil, but the rearing of live stock, hunting, and fishing are the principal occupations.

EDUCATION.

21. The intellectual capacity of the Icelanders is of a superior order. Domestic education is general, though schools are few. Parents teach their children all they know, and then send them to their better informed neighbors. All the books and manuscripts within a radius of fifty miles are read aloud over and over again and discussed. There is one college, Iceland College, with eight professors. Nearly all the valuable works of European literature have been translated into their tongue, and some of the natives have distinguished themselves for their literary attainments.

RELIGION.

22. "Almost all the inhabitants are Lutherans, the whole island forming a bishopric." The people are remarkable for their piety and devotion; great crimes are unknown among them. No war has existed for 900 years. Honesty is a prevailing principle.

Attempts have been made to civilize the Esquimaux of Greenland, but when left to themselves have invariably relapsed into barbarism.

GOVERNMENT.

23. Danish America is subject to Denmark, nominally. In 1879 its independence was literally acknowledged. The constitution is modeled after that of Denmark. Greenland is yet to a certain extent controlled by trading companies managed by the Danish crown.

TOWNS.

24. *Reykjavik*, which signifies steam-town, so called from the numerous geysers and boiling springs in the vicinity, is the capital. It is situated on the southern coast, and has about 1,400 inhabitants. It has a college, theological and law schools, library of 10,000 volumes, and an observatory.

Upernavik is situated on the north-western coast of Greenland, and is the most northern town in the world.

Godhaven (Good Harbor), *Gothaah*, and *New Hernhut*, are the principal places on the western shores.

HISTORY.

25. Iceland was discovered about 860 by a Norwegian pirate, and permanently settled in 874. An independent republic soon arose in Iceland, which afforded an asylum to literature and the arts, then on the point of being overwhelmed by the general tide of barbarism on the continent of Europe. The Icelanders were skilled and hardy navigators. Greenland was discovered by Gunnbjorn about the year 876 A. D., and was re-discovered in 983 by Eric Raude, who was driven by accident upon the coast.

A still more remarkable discovery, made by them, was Vineland, or New England, which we have already noticed. In the year 1261 the Icelanders submitted to Haco, king of Norway, and remained attached to this kingdom. In the year 1387 the island was transferred to the crown of Denmark. Greenland came under the Danish government in 1023. At the beginning of the fifteenth century there were 200 towns and villages, mostly on the east coast, but the whole colony, in a mysterious manner, suddenly disappeared. Captain Davis, an Englishman, re-discovered Greenland in 1585. No inhabitants were found, except the Esquimaux, but the ruins of houses and churches were numerous. In 1721 it was again settled.

CHAPTER XII.

BRITISH AMERICA.

MAP EXERCISES

Locate the following:

CAPES.

Bathurst, Chidley, Charles, Bauld, Ray, Race, Gaspe, Canso, Cape Breton, North, Churchill, Whittle.

GULFS AND BAYS.

Hudson, James, St. Lawrence, Fundy, Chaleur, Mirimichi, White Trinity, Placentia, Notre Dame, St. George, Georgian, Mosquito, Georgia, Boothia, Baffin, Coronation, Ungava, Chesterfield Inlet.

CHANNELS, STRAITS, AND SOUNDS.

Canadian, Fox, Belle Isle, Northumberland, Canso, Queen Charlotte, Dixon, Juan de Fuca, Hudson, Melville, Lancaster, Jones, Banks, Davis.

ISLANDS.

Newfoundland, Prince Edward, Anticosti, Cape Breton, Miquelon, Langley, St. Pierre, Magdalen, Great Manitoulin, Southampton, Baffin Land, Banks, North Devon, Vancouver, Queen Charlotte, Thousand, Arctic Archipelago.

PLAINS, PLATEAUS.

Arctic Plateau, Arctic Plain, Height of Land.

MOUNTAIN RANGES.

Rocky, Coast, Wotchish, The Long Range.

MOUNTAIN PEAKS.

Brown, Hooker, Lyell, Murchison, Head.

PENINSULAS.

Nova Scotia, Labrador, Melville, Boothia.

LAKES.

Superior, Huron, Erie, Ontario, St. Clair, Great Slave, Great Bear, Athabasca, Deer, Winnipeg, Winnipegosis, Manitoba, Lake of the Woods, St. John, Sincoe, St. Peter, Grand, Nipissing, Bras D'or.

RIVERS.

St. Lawrence, Ottawa, Maurice, Saguenay, Sorrel, St. John, St. Croix, East Maine, Abittibbe, Albany, Nelson, Severn, Winnipeg, Red River of the North, Saskatchewan, Athabasca, Peace, Slave, Mackenzie, Frazier, Rupert.

CITIES.

Ottawa, Montreal, Toronto, Hamilton, Québec, Three Rivers, Kingston, St. John's, St. John, Halifax, Heart's Content, Sydney, St. Andrew's, Chatham, Charlotte Town, Port Sarnia, Winnipeg, New Westminster, Victoria.

RELATIVE POSITION.

In what direction is Quebec from Montreal? from Halifax? St. John? Ottawa? New York? Boston?

TRAVELS.

What provinces would you cross in traveling by land from Winnipeg to Halifax? New Westminster? Chesterfield Inlet? Cape Charles? Trace a water route from Ottawa to Halifax; to St. John's; to Toronto; to Port Sarnia; to New York; to Ft. Wayne; to Glasgow. From Lake Traverse to Big Stone Lake.

MISCELLANEOUS.

What provinces in British America are crossed by 45° north latitude? by 48° ? by 50° ? What provinces are crossed by the meridian of Washington? by 5° east of Washington? 5° west? What places have the same time of day as Columbus, O.? Boston? What places have the same length of day as Paris? as Belgrade? as St. Petersburg? Where is a man's shadow longest at noon on the last day of May? On what day does a man make the longest shadow at noon in Montreal? Do all cities on the meridian which passes through Quebec have sunrise at the same time? If not, where does the sun rise first? A man who has traveled to Winnipeg finds that his watch had lost 1 hr. and 20 min.; from what meridian did he start? Name five seaports of Canada.

DESCRIPTION.

POSITION.

1. British America is bounded on the north by the Arctic ocean, on the east by the Atlantic, Davis strait, and Baffin's bay, on the south by the United States, and on the west by the Pacific and Alaska. In latitude it extends from the 42° to 72° north; in longitude from 55° to 141° west longitude from Greenwich.

EXTENT.

2. The greatest length is 3,000 miles, and greatest breadth is 2,000 miles. Area, 3,400,000 square miles.

Provinces.	Area. Sq. Miles.	Population.	Capitals.
Ontario	220,000	1,923,000	Toronto.
Quebec	188,000	1,359,000	Quebec.
New Brunswick	27,000	321,000	Fredericton.
Nova Scotia	20,000	441,000	Halifax.
Manitoba	123,000	66,000	Winnipeg.
British Columbia	341,000	50,000	Victoria.
Prince Edward	2,100	109,000	Charlottetown.
Assiniboia	95,000		
Saskatchewan	114,000		
Alberta	100,000		} Regina.
Athabasca	122,000		
Keewaydin	360,000		
Newfoundland	43,000	161,000	St. Johns.
Remainder of British America	1,948,000	56,000	
Total	3,400,000	4,486,000	

DISTANCES.

From Montreal to Winnipeg	1,140 miles.
" " " Halifax	460 "
" " " Washington	520 "
" " " James Bay	450 "
" " " St. Johns	1,000 "

GENERAL OUTLINE OF COAST.

5. The coasts are very irregular and are well set with deep bays and commodious harbors, some of which are among the finest known. The *Coast of Labrador* is rugged and uninviting. Of the northern coast less is known.

CAPES.

4. *Cape Race* contains a light-house 180 feet above the level of the sea. There are many other capes, but none of particular note.

GULFS AND BAYS.

5. The following is a list of the principal gulfs and bays:

Name.	Length. Miles.	Breadth. Miles.	Area. Sq. Miles.	Depth. Feet.
St. Lawrence	280	280	80,000	900 6,500
Hudson	850	600	400,000	
James	300	175	50,000	
Baffin's	850	400		
Georgia	110	50		
Ungava	180	100		
Fundy	170	30 to 50	7,000	

The last named gulf is noted for its high tide, which sometimes rises to a height of seventy-one feet, and rushes with such velocity that swine are often overtaken and drowned while feeding on shell fish. Mines Basin is noted for its violent bores, sometimes forty or fifty feet high.

Hudson bay has bold and rocky shores.

SEAS.

6. The *Lincoln* and *Polar* seas lie to the north of British America. It has been thought by some that the "open polar sea" exists in the far north, where the water never freezes.

CHANNELS AND STRAITS.

7. The following is a list of the principal channels and straits :

Name.	Length. Miles.	Breadth. Miles.
Belle Isle	48	12
Northumberland	100	25 to 40
Canso	17	2½
Canadian		30
Hudson	400	60 to 150
Davis		200

The first named straits are dangerous for navigation.

SOUNDS.

8. *Queen Charlotte* sound is between Vancouver island and the main land; *Melville* sound is a branch of the Arctic.

ISLANDS.

9. The following is a list of the islands :

Name.	Length. Miles.	Breadth. Miles.	Area. Sq. Miles.	Population.
Anticosti	120	30	3,850	But few inhabitants.
Cape Breton	100	85	3,120	76,000
Prince Edward	130	4 to 30	2,120	108,000
Newfoundland	419	300	40,000	147,000
Isle of Jesus	23	6	85	10,000
Vancouver	278	30 to 65	16,000	6,000

Thousand Isles—They are about 1,500 in number, situated at the lower end of Lake Ontario.

Southampton—Coasts are rugged and mountainous, and the interior is unexplored.

Queen Charlotte—Climate is agreeable, and contains deposits of gold, copper, iron, and coal.

The *Langley*, *Miquelon* and *St. Pierre* lie south of Newfoundland and belong to France; they are important fishing stations.

Vancouver island is noted for its rich coal fields, magnificent harbors, valuable quarries of free-stone, delightful climate, and fine forests.

PENINSULAS.

10. *Nova Scotia* is 350 miles long and 120 miles wide. *Melville* is a frozen peninsula within the Arctic circle; it is 250 miles long and 100 miles wide. *Labrador* is a large peninsular tract of land, and politically attached to Newfoundland. It was discovered by Cabot in 1496.

GREAT BANK.

11. The *Great Bank* lies to the south-east of Newfoundland, and is covered with water varying in depth from 100 to 600 feet. It forms a part of the so-called *Telegraphic Plateau*, extending across the ocean to Ireland. This is the most profitable fishing ground in the world, and during the fishing season—from June till November—many thousands of people find employment here. Both cod fish and seals are taken in large numbers. Huge icebergs, brought hither by the Arctic currents, sometimes lodge here. The length of the *Great* or *Grand Bank* is about 600 miles; breadth, 200.

SURFACE.

12. The middle of this extensive region consists of an extensive plain; in the north is the Arctic Plateau, with an elevation of 1,500

feet. The western part is traversed by the Rocky and Coast mountains. *Upper Canada* is characterized by a general evenness of surface. *Quebec* is much broken by hills and valleys, though occasionally there are long stretches of level land. The surface of *New Brunswick* and *Nova Scotia* is generally undulating.

Prince Edward island is extremely picturesque, but destitute of those bold features recognized in the neighboring provinces. Without any absolute flat surface, the country has no mountains, and in general the land rises into gentle undulations.

Newfoundland is rocky and much intersected by rivers and lakes. Nearly every hill contains a lake on its summit.

MOUNTAIN RANGES.

13. The *Height of Land* which separates the Hudson bay system from the Lake system, terminates in the east in the Wotschish mountains.

The *Notre Dame* mountains trend nearly east and west, and are found in Quebec, south of the St. Lawrence. There are numerous smaller ranges in various parts. The *Rocky* and *Coast* mountains have been described elsewhere.

MOUNTAIN PEAKS.

The following is a list of the principal peaks:

Name.	Height.	Name.	Height.
Brown	16,000 feet.	Murchison	15,700 feet.
Hooker	15,750 "	Lyell	13,200 "

NATURAL CURIOSITIES.

15. Quebec is characterized for its romantic and picturesque scenery. The physical features of this province, on both sides of the St. Lawrence, are varied and grand, consisting of boundless forests, magnificent rivers and lakes, foaming cataracts, and islands with rich pastures.

The picturesque falls and natural steps of the Montmorenci in the vicinity of Quebec are widely known. The height of the former is 250 feet.

The Ottawa and its tributaries abound in falls and rapids; the highest, called the Rideau, falls over a perpendicular rock fifty feet high.

The "Boiling Pot" or the Chaudiere Falls, in the same vicinity, are wild and grand.

"The fall in no place exceeds forty feet, but the rapids extend six miles, and the water foams, tosses and tumbles among the rocks of every shape, in perpetual variety, and in such a manner as never to weary the eye, appearing like a multitude of different streams struggling for a passage."

The *Falls of the Chaudiere*, on the south side of the St. Lawrence, ten miles below Quebec, leap with a perpendicular pitch of 125 feet down a wild chasm. The beautiful falls of the *St. Anne* and the *Thousand Isles* are favorite places with tourists.

But the grandest river scenery occurs in the last sixty miles of the Saguenay river; the banks varying in height from 500 to 1,500 feet, are not only perpendicular but often actually overhanging the waters below, as if to look down upon its own grandeur. The water is in some places more than 3,000 feet deep.

The *Fraser*, for sixty miles of its course, contains some of the grandest river scenery in the world, a canon here being formed of heavy timbered mountains rising from 3,000 to 6,000 feet above the water.

The scenery along the north-western shore of British Columbia is grand beyond description.

LAKES.

16. The lakes of Canada are exceedingly numerous, dotting the whole country with numerous sheets of water of various dimensions, and interwoven with many connecting streams, so that it is possible in many instances to pass by water from one river system into other systems, as the same lake is sometimes the source of several rivers.

They contain many valuable kinds of fishes, and add much to the natural beauty of the country.

Some of them are noted for the transparency of their waters; those of *Great Bear* lake are so clear that a white object can be seen at a depth of ninety feet.

Lakes *Superior* and *Huron* are remarkable for their transparency; rocks and fish can be seen at extraordinary depth. *Lake Winnipeg* is muddy and shallow. *Bras D'or* lake is a magnificent sheet of water, fifty miles long and abounding with the best qualities of fish. "*Lake of the Thousand Islands*" is a name given to Lake Ontario, from the Thousand islands at its lower end.

The following is a list of some of the large lakes wholly within British America:

Name.	Length. Miles.	Breadth. Miles.	Area. Sq. miles.	Height. Feet.
Winnipeg	240	55	9,000	628
Great Bear	150	150	14,000	230
Great Slave	300	50	11,800	
Athabasca	230	14	3,260	600
Simcoe	30	18	500	970
St. Peter	35	10	250	
Nipissing	50	35	600	

RIVERS.

17. The rivers of British America are abundant, and many of them are navigable for considerable distances. But even in the southern parts they are frozen over for five months or more each year, so that their commercial value is not great. During the winter season boats are made to run on the ice.

Name.	Length. Miles.	Area of Basin. Sq. miles.	Remarks.
St. Lawrence . . .	2,120	300,000	1,800 miles of navigation.
Mackenzie	2,120	442,000	Explored by Alexander Mackenzie in 1789-92.
Athabasca	1,000		Lignitic coal abundant along its coast.
Peace	1,100		Navigable 900 miles.
Nelson	350		Navigation almost impossible owing to rapids and falls.
Saskatchewan . . .	1,660	360,000	Not generally navigable.
Ottawa	700	80,000	Navigable 250 miles.
Saguenay	100		Navigable to Ha Ha, 60 miles.
Albany	320	52,000	
Maurice	400		High banks and many falls.
Severn	350		
St. John	550	27,000	Navigable 225 miles.
Slave	300		It has two mouths.
Churchill	850	74,000	Contains many rapids.

SOIL.

18. Owing to the severity of the climate the greater portion of British America is unproductive. Those parts bordering on the United States are in general quite fertile, and capable of producing excellent crops of wheat, oats, barley, rye, potatoes, etc.

Quebec has a thin soil, and Labrador is almost sterile. New Brunswick and Nova Scotia contain much good land, especially in the river valleys. The peninsula between lakes Huron, Erie, and Ontario is called the "Garden of Canada."

Prince Edward island is noted for its fertility and for its mild climate.

Newfoundland contains many districts called "barrens," occupying the summits of hills and elevated tracts, covered with a scanty vegetation; but in the neighborhood of rivers and lakes there are valuable soils yielding profitable returns to the husbandman. According to Johnston the valley of the Grand river affords excellent accommodations for a hundred thousand settlers.

CLIMATE.

19. The climate of British America is severe and much colder than that of Europe on the same parallels. It is nearly the same with

the climate of Norway, Sweden, Russia, and the south part of Iceland. Sudden and great changes of temperature are common in most parts. The summers are short and hot, the winters excessively cold, and the autumns are celebrated for their pleasantness. Those parts bordering on the lakes and seas have a much more equable temperature.

Western British America is much warmer than the eastern parts in the same latitude.

VEGETATION.

20. The southern portion is thickly wooded with pine, ash, maple, butternut, walnut, cherry, bass, sycamore, button-wood, alder, willow, cedar, tamarack, etc. Of shrubs, there are many kinds, among which is the sumac.

Flowery plants of great beauty abound; and among the wild fruits are cherries, plums, grapes, currants, gooseberries, raspberries, cranberries, strawberries, etc. Nuts of various kinds are abundant. Nearly all vegetables and fruits of the temperate climate thrive under proper cultivation. Orchard products in Nova Scotia reach utmost perfection. Manitoba is noted for its wheat. Corn will not ripen except in the extreme southern parts. Grass for pasture and hay is a leading product.

MINERALS.

21. Canada is rich in variety and quantity of minerals, especially Nova Scotia, New Brunswick, and Ontario.

Iron is abundant, and lead, tin, and copper occur in several places. The latter abounds most on Lake Superior, and is regarded the richest copper region of the world. Silver is known to exist, and gold is found in limited quantities on the Chaudiere river, but it exists extensively in British Columbia.

New Brunswick, Nova Scotia, and Vancouver island are rich in coal. Marble of many beautiful varieties, lithographic stones, and gypsum are found extensively in Ontario; the last named mineral is plenty in New Brunswick and Nova Scotia. A peculiar stone or rock, from which grindstones are made, is largely quarried in the latter provinces. Salt springs are numerous in New Brunswick, and rock salt in Ontario.

MANUFACTURES.

22. The manufactures of Canada are not very extensive. They embrace agricultural implements, carriages, clothing, cordage, boots and shoes, spirits, sewing machines, machinery, woolens, oil-cake, sugar, ships, lumber.

NATURAL ADVANTAGES.

23. The pupil should be required to give the natural advantages 1st, for agriculture; 2d, for manufactures; 3d, for commerce.

COMMERCE.

24. This is important, and embraces a great variety of articles. The exports for 1880 were \$92,000,000, and consisted chiefly of minerals, fish, lumber, cattle, horses, furs, agricultural products, carriages, boots and shoes, clothing, cordage, etc.

The imports for the same year amounted to \$86,500,000, and were of the following classes: Wearing apparel, cottons, woolens, worsteds, hardware, coffee, tea, sugar, railway iron, cars, locomotives, and machinery.

INTERNAL IMPROVEMENTS.

25. There are numerous railroads traversing all the settled portions. The two principal are the *Great Western* and the *Grand Trunk*; the latter is 1,092 miles long, and includes the Victoria Iron *Tubular Bridge* at Montreal, nearly two miles long. The *Suspension Bridge*, over the Niagara, on the Great Western, is a remarkable structure.

The *Welland Canal*, connecting lakes Erie and Ontario, is twenty-eight miles long, and cost \$7,638,000. Our government assisted in building this canal. Several other canals exist along the St. Lawrence. Steamboats are numerous, and many excellent public buildings exist in different parts.

ANIMALS.

26. Wild animals, as bears, deer, wolves, boars, beavers, and otter are numerous, and furs form an important product. The humming-bird appears in Canada, and the rattle-snake is not uncommon. Fish are abundant in lakes, rivers, and borders of the sea.

INHABITANTS.

27. The Indian aborigines are now nearly extinct, and occupy the out-posts of the territory. The present dominant population is of European origin. There are many of French descent, or, as they are locally called, *habitants*. Irish are numerous in Newfoundland, and in the neighboring provinces. Settlements of Norwegians, Swedes, Welsh, Germans, Swiss, Dutch, and Russians exist in various places. About 22,000 negroes, and 100,000 Indians are scattered over this immense territory.

OCCUPATION.

28. Agriculture is a leading pursuit. Canada, from the first, has been a commercial country. Ship-building is carried on extensively. Fishing, hunting, and lumbering employ thousands of men. Mining and manufacturing give employment to many more.

LANGUAGE.

29. The prevailing language is everywhere the English, but in the country parts of Quebec a corruption of French is used.

GOVERNMENT.

30. The government of Canada is modeled after that of the United States, with some modifications. The Dominion of Canada embraces all the provinces except Newfoundland. The chief executive is called Governor-General, and is appointed by the Crown of England. Marquis of Lansdowne is the presiding officer at present.

The legislative power is exercised by two houses of parliament, the senate and house of commons. The senate is the upper house and its members are appointed by the Governor-General. The government of each province is patterned after that of the general government.

The chief executive, styled the Attorney-General, is appointed by the Governor-General, and holds his office during pleasure, but cannot be removed from office within five years except for a cause.

EDUCATION.

31. Throughout Canada the facilities for education are excellent. Numerous colleges and schools of an higher order exist. *King's College* at Toronto, *Albert University* in Belleville, *Queen's University* in Kingston, *Ottawa College* in Ottawa, the *McGill College* at Montreal, and the *Marrin College* of Quebec, are some of the principal schools.

RELIGION.

32. There are many Roman Catholics in Quebec, Newfoundland, and Nova Scotia. The following statement will show the religious standing pretty accurately.

Name.	Members.	Name.	Members.
Roman Catholics	1,500,000	Presbyterians	550,000
Church of England	500,000	Methodists	575,000

There are besides a few Mormons and Mohammedans.

CITIES.

33. *Ottawa*, the capital, is beautifully situated on the right bank of the Ottawa river.

The parliament buildings and suspension bridge are the chief attractions. It contains manufactures of flour, cast iron, agricultural implements, mill machinery, brooms, wooden ware, etc.

Quebec has an extremely picturesque situation on the St. Lawrence river.

It is also noted for its strong fortress, because of which it is styled the "Gibraltar of America." There are many fine buildings, and the educational facilities are celebrated. The streets are narrow and crooked. The commerce and manufactures are extensive; of the latter the most important are boots and shoes, paper, leather, musical instruments, nails, cutlery, machinery, ships, etc.

Montreal is the largest city in the Dominion, and is an immense *entrepot* of trade.

It has excellent river and railroad advantages. The manufactures are numerous and of almost endless variety. The cathedral of Notre Dame, the largest church building in America, has a capacity of 12,000 to 15,000 persons; its largest bell weighs 29,400 pounds. There are many other large and imposing churches. The island (Montreal) upon which it is built is thirty-two miles long and ten wide.

Toronto, the capital of Ontario, is one of the most flourishing cities in the Dominion.

It is beautifully situated on a circular bay on the northern shore of Lake Ontario. The University of Toronto is one of the best in British America; there are several other noted schools. Trading, pork-packing, and manufacturing are leading pursuits.

Halifax is situated on one of the finest harbors in the world, and is the stopping-place for vessels between the United States and northern Great Britain.

There are manufactures of all kinds of iron castings and machinery, agricultural implements, nails, fuse, pails, gunpowder, cordage, boots and shoes, soap, candles, leather, wooden ware, distilleries, etc.

St. John, the chief city of New Brunswick, is picturesquely situated on a river of its own name.

The city is regularly laid out and well built, and is the *entrepot* of an immense foreign and inland trade. It contains a break-water, constructed to intercept the violence of the waves occasioned by southerly winds. Commerce, fishing, and manufacturing are the leading industries.

St. Johns, the capital of Newfoundland, is an important fishing station. Its harbor is one of the very best. The population fluctuates greatly with the fishing seasons.

Three Rivers is noted for its extensive trade in lumber; it was founded in 1618.

Kingston, an important port on Lake Ontario, is the third strongest fortified city in Canada. It is well laid out; and built of blue limestone. Ship-building is extensively carried on.

London is in a fine agricultural region, and is much visited by invalids on account of its white sulphur springs. It is a pretty city.

Hamilton possesses superior commercial advantages, many manufactures, and several important schools.

The following list gives the names of the principal cities of the Dominion, with population according to the last census—1881:

Name.	Population.	Name.	Population.
Ottawa	20,000	Charlottetown	9,000
Montreal	141,000	Kingston	14,000
Quebec	82,000	Hamilton	36,000
Toronto	86,000	Three Rivers	9,000
Halifax	36,000	Winnipeg	3,000
St. John	26,000	Victoria	6,000
St. Johns	22,500	London	20,000
Fredricton	6,000		

HISTORY.

34. Canada was discovered by Sebastian Cabot in 1497; but the first settlement made by Europeans was in 1544, at St. Croix harbor, by Jaques Cartier, a French navigator, who sailed up the St. Lawrence. In 1608 a permanent settlement was made upon the present site of Quebec, Canada being then called New France. From this period till 1759 the French continued to occupy the country; but in that year an English army under General Wolf captured Quebec, and by September, 1760, all other places within the government were surrendered to the British. In 1774 a legislative council was appointed to assist the governor. Seventeen years later Canada was divided into two separate provinces, called Upper and Lower, with distinct legislatures. In 1840 a reunion was effected, and at still later periods the organization of the government has been beneficially modified. The present union was effected in 1867.

In 1663 one of the most *remarkable earthquakes* on record occurred in Canada, in which the whole face of the country was said to have been changed. Rivers were dried up, lakes disappeared, mountains sunk and lakes occupied their places; the color of the water in the rivers became changed, and the St. Lawrence took a new course, in places; at Three Rivers two mountains were thrown into the St. Lawrence.

CHAPTER XIII.

MEXICO AND CENTRAL AMERICA.

MAP EXERCISES.

Locate the following :

CAPES.

San Lucas, San Eugenia, Corrientes, Catoche, Gracias a Dios, Mariato.

GULFS AND BAYS.

Mexico, Campeachy, Honduras, Chiriqui, Dulce, Nicoya, Fonseca, Tehuantepec, California.

SEAS.

Caribbean.

CHANNELS.

Yucatan.

ISLANDS.

Tres Marias, Revilla Gigedo, Angel, Bay Islands, Coiba, Cozumel.

PENINSULAS.

Yucatan, Lower California.

MOUNTAIN RANGES.

Sierra Madre.

MOUNTAIN PEAKS.

Popocatepetl, Iztaccihuatl, Orizaba, Toluca, Jorullo, Colima, San Salvador, Coseguina, Orosi, De Agua, De Fuego.

RIVERS.

Rio Grande, Conchos, De Santiago, De las Balzas, Yaqui, Usumasinta, Wanks, San Juan.

LAKES.

Nicaragua, Managua, Chapala, Cayman.

ISTHMUSES.

Tehuantepec, Panama.

PLATEAUS.

Anahuac, Bolson de Mapimi.

CITIES.

Mexico, Puebla, Guadalajara, Guanajuato, San Louis Potosi, Merida, Morelia, Oajaca, Queretaro, Saltillo, Aguas Calientes, Matamoras, Vera Cruz, Mazatlan, Acapulco, Chihuahua, Tampico, Guatemala, San Jose, Tegucigalpa, San Salvador, Comayagua, Managua.

MISCELLANEOUS.

What is the latitude of Mexico? Cape San Lucas? Cape Catoche? San Jose? What is the longitude of the same places? What is the difference of time between Washington City and Mexico? Which has the longer day on the 1st day of January? Which to-day? What cities of the United States have the same time of day as Acapulco? What places near the tropic of Cancer? What is the distance on an air line from Washington to Mexico? from Mexico to Cape San Lucas? to New Orleans? to Cape Catoche? to Lake Nicaragua? What states of Mexico border on the United States? on the Gulf of Mexico? on the Pacific? on the Gulf of California? In what state is Mexico city?

RELATIVE POSITIONS.

In what direction is Cape San Lucas from Mexico? Vera Cruz from Mexico? Matamoras? Guanajuato? Acapulco? Comayagua? On

what water would you sail in going from Acapulco to Guaymas? to San Francisco? From Vera Cruz to New Orleans? to Yankton? to Indianapolis? to Nashville? to Augusta? to Toronto? What states and territories lie directly north of Acapulco? of Cape San Lucas? of Cape Catoche?

DESCRIPTION.

POSITION.

1. These interesting countries lie south of the United States, and form the southern part of North America. They are washed on the west by the Pacific; on the east by the Gulf of Mexico and the Caribbean sea. The Isthmus of Panama connects Central America with South America.

LATITUDE AND LONGITUDE.

2. In latitude they extend from 8° to 32° north, and lie between the 82d and 117th meridians west of Greenwich.

EXTENT.

3. Mexico measures 1,925 miles in length, and from 130 to 1,500 in breadth. Central America, 1,000 miles in length and from 80 to 300 in breadth. The area of the former is 742,000 square miles; of the latter 175,000 square miles.

COAST.

4. The Gulf coast contains few harbors, and these are obstructed by sand-bars. In the Bay of Honduras the navigation is rendered dangerous by numerous reefs and keys. On the west coast, from Acapulco to Guaymas, is a series of fine harbors. Several deep inlets exist on the west coast of Central America. Most of the rivers are obstructed at their mouths, and both coasts are rendered almost inaccessible for several months each year by violent tempests.

CAPES.

5. These are few, as the coast line presents few irregularities. *Cape San Lucas*, projecting from the southern point of Lower California; *Catoche*, from Yucatan; *Gracias a Dios*, from Central America, are among the more prominent points.

ORIGIN OF THE NAMES CATOCHE AND YUCATAN.

Hernandez de Cordova being on the coast in 1517, he met some of the natives, whose chief said to him "lones catoche." The Spaniard supposing that he meant the name of the place, called the projecting point of land Cape Catoche.

Yu-ca-tan is an Indian word, meaning "what do you say?" This was their reply to the Spaniards when they asked the name of the country.

Yucatan is called Maya by the natives.

GULFS AND BAYS.

6. *Gulf of California* is 700 miles long, and from 30 to 150 miles broad. It contains numerous islands and valuable pearl fisheries along its rugged shores. The *Gulf of Mexico*, with its branch, *Bay of Campeachy*, are on the east of Mexico. *Dulce*, *Nicoya*, and *Fonseca* indent the western shore of Central America.

CHANNELS.

7. *Yucatan Channel* lies between Yucatan and Cuba, and is 120 miles across.

ISLANDS.

8. The islands are all small and not of much note. The following are the principal: *Cozumel*, twenty-four miles long and seven wide; *Revilla Gigedo*, west of Mexico, uninhabited; and the *Bay Islands*, in the Gulf of Honduras.

PENINSULAS.

9. *Lower California* is 750 miles long and from 30 to 150 wide. Area, 62,000 square miles. There is much poor soil, and the climate is hot, though tempered in places by the sea breezes. *Yucatan* peninsula contains 30,000 square miles. It is very productive, but destitute of any important rivers.

SURFACE.

10. This portion of America consists of a country rising in successive terraces or table-lands to an elevation of 8,000 to 10,000 feet, on the top of which are placed the snow-capped peaks of the Cordilleras. The eastern coasts are low.

MOUNTAIN RANGES.

11. Several ranges cross Mexico lengthwise, but the chief range is the *Sierra Madre*, "Mother Range," a continuation of the *Rocky* mountains, which extends the whole length of both countries, and with only a slight interruption in the Isthmus of Panama, reappears in South America under the name of Andes. They are not so high in Central America as in Mexico.

MOUNTAIN PEAKS.

12. Many of the peaks are volcanic and of great height. These with their snow-capped summits present a grand appearance. *Popocatepetl* (the hill that smokes), and *Iztaccihuatl* (the white lady), constitute the "twin peaks."

The top of the latter resembles a woman with a sheet spread over her, and the Mexicans have a superstition that she is the *wife of Montezuma*, the sovereign of Mexico at the time of the conquest by Cortez.

Central America is subject to the most tremendous convulsions of nature, which have buried cities in ruin and destroyed whole tribes of people. It is said that about eighty earthquakes occur each year; most of them, however, are but light tremors and do no injury.

The following list embraces the principal peaks, with their height in feet.

Name.	Height.	Name.	Height.
Popocatepetl	17,780 feet.	Jorullo	4,150 feet.
Iztaccihuatl	15,700 "	De Agua (water volcano) .	15,000 "
Orizaba	17,380 "	De Fuego (fire volcano) .	13,800 "
Cofre de Perote	13,400 "	Coseguina	
Colima	12,000 "	San Salvador	9,000 "
Tolcua	15,200 "		

PLATEAUS.

13. The plateau of the *Anahuac*, the highest table-land of Mexico, is on an average 7,500 feet high. *Bolson de Mapimi* is a wild and rocky district in the northern part of Mexico. The greater portion of Central America is a table-land, with an elevation of about 3,000 feet.

OBJECTS OF INTEREST.

14. These countries are exceedingly interesting in their antiquities. The Spaniards destroyed most of the Mexican records, or picture-writings, superstitiously regarding them as cabalistic. A few of these, however, remain, which show that they recorded events by painting on skins. An ancient calendar was found, carved in porphyry; besides many other curious relics of ancient art.

The territory of Mexico is scattered over with interesting vestiges of the ancient inhabitants. Among these is the *Pyramid of Cholulu*, which is the largest of the kind in the world.

It covers thirteen acres of ground, and upon its summit stood an ancient Aztec temple, dedicated to the Mexican god of Air, but it has since been replaced by a Roman Catholic chapel.

Pyramids, or *teocoelli*, are still numerous, most of which are supposed to be the work of the Aztecs.

There are interesting ruins at *Mitla*, twenty-six miles east of *Oajaca*.

Near *Palenque*, on the border of Yucatan, are the ruins of a great city, among which are many beautiful and interesting sculptures.

"At *Uxmal* (ooxmahl) are ancient architectural remains of great interest." These, with other ruins in Guatemala and Yucatan, were probably the work of the Toltecs, who established themselves here after their expulsion from the Mexican valley.

The scenery along the Mexican railway, from Mexico to Vera Cruz, and on the Mexican National, from Mexico to Laredo, on the American frontier, is almost unrivaled for magnificence. There is much very fine scenery in all the middle and upland regions of both countries of almost infinite variety and grandeur.

Some miles to the north-west of Mexico is a remarkable cave, gilded all over with a sort of gold-leaf, and noted for its wonderful acoustic properties, a man's voice echoing and re-echoing almost like thunder.

LAKES.

15. There are numerous lakes of no great extent in the valley of Mexico, the waters of which are diminishing. *Texcoco*, the principal, lies near the city of Mexico.

It is fifteen miles long and nine broad, and its waters are strongly impregnated with salt, which supply a number of salt works on its banks. It contains the islands on which the Mexico of the Incas was built.

The celebrated *floating gardens*, formed by covering a sort of raft, composed of rushes and shrubs, with a layer of rich earth, were formerly numerous on the lakes; but most of those now called by that name are fixed, though some move from place to place.

Lake Chapala, in the state of Xalisco, is distinguished for the beauty of its scenery. Its area is estimated at 1,300 square miles.

Cayman, or *Mapima*, "alligator lake," is the name of a small lake in the north. There are, all together, fifty-nine lakes and lagoons in Mexico.

Lake Nicaragua lies in Central America, and is the largest lake of North America south of the United States. Its vicinity and islands contain numerous interesting relics of antiquity.

The lake is deep, and one of the proposed routes for an inter-oceanic canal is from this lake to the Pacific, a distance of only eighteen miles.

Lake Managua, a beautiful body of water, is connected with the latter by the Rio Tipi Tapa.

Lake Yojoa, in Honduras, is twenty-five miles long and eight wide, and is 2,050 feet above the level of the sea. It is navigable and very beautiful. Near the eastern shore an immense spring of crystalline, bluish water, seventy-five feet in diameter, gushes forth from the earth and pours into the lake.

The following are the dimensions of these lakes :

Name.	Length. Miles.	Breadth. Miles.	Area. Sq. Miles.	Depth. Feet.	Height Above Sea-Level.
Nicaragua	90	30	6,165	30 to 320	128 feet.
Managua	40	16	600	12 to 240	156 feet.
Chapala	50	30	1,300	30	6,400 feet.
Peten				200	

RIVERS.

16. Mexico is not well watered, and is almost destitute of navigable rivers. Scarcely 200 miles of river navigation can be claimed by this country. Nearly all the streams rise in the highlands, and rush toward the sea with great velocity, forming numerous rapids and cascades. In drainage, Central America is similar to Mexico.

The following is a list of the rivers:

Name.	Length. Miles.	Miles of Navigation.	Characteristics.
Rio Grande . .	1,800	500	It is generally a rapid stream, and its navigation is hindered by sand-bars and rapids.
Rio de Santiago	600	24	It is greatly interrupted by cataracts and is very rapid.
Rio de las Balzas	400		Not navigable on account of its rapids. Spotted Indians live upon its banks.
Verde	200		This river is of no commercial importance.
Tampico	200	40	Upper course rapid.
Santander . . .	260	30	Its mouth is obstructed by sand-bars.
San Juan . . .	100	100	Navigable throughout by boats of eight to ten tons burden.
Usumasinta . .	400	50	A precipitous stream.
Coaxacoalcos . .	100	35	Its lower course is very smooth.
Alverado	120		It is a very rapid and wild stream.
Tobasco	300		It is similar to the Alverado.

CLIMATE.

17. About one-half of these countries lie within the torrid zone, but the elevation of their surface modifies their climate in a striking manner. The *tierras calientes*, or hot lands, lie between an elevation of 4,000 feet and the sea. The *tierras templadas*, or temperate lands, lie between the elevations of 4,000 and 6,000 feet. The climate here is perpetual spring. The *tierras frias*, or cold lands, occupy those regions having an altitude of more than 6,000 feet.

Along the coast in many places the climate is very unhealthy, and in Central America the climate is the most unhealthy during the wet season.

The northern parts, bordering on Arizona and New Mexico, have a dry climate, and irrigation must be practiced to raise good crops. The tops of the higher peaks are clothed in perpetual ice and snow.

The year is divided into two seasons: the rainy, lasting about four months from the end of May, and the dry season, comprising the rest of the year. The rains fall generally in the afternoon, while the rest of the day is perfectly free from clouds. These rains come with great suddenness, and the water seems to fall almost in sheets.

SOIL.

18. The low plains on the coast are fertile and have a luxuriant vegetation. Much of the central table-land is dry and sterile, but in those parts which are well watered the vegetation is remarkably rich and abundant.

VEGETATION.

19. Mexico is one of the most highly favored countries on the face of the globe; owing to the different elevations, she enjoys every variety of climate and productions, including all the products of the different zones.

Delicious fruits abound, including yams, oranges, melons, citrons, bananas, figs, etc.

The maguey or agave is a thrifty plant, which yields an abundance of juice, made into a kind of cider, called *pulque*, which is a favorite liquor among the people. When distilled it is an intoxicating beverage, called *mexical*. One plant will yield six-hundred quarts in a season.

The cochineal insect, used for producing a red dye, is raised to a great extent by the Indians, who cultivate the cactus on which it feeds. Cotton, sugar, indigo, cocoa or chocolate-nut, etc., are extensively produced. Indian corn is one of the great food plants of Mexico; three, and sometimes four crops may be raised each year.

The forests along the coasts display all the grandeur of tropical vegetation, and yield many valuable woods, among which may be enumerated mahogany, Brazilwood, ebony, logwood, and other dye stuffs.

The vegetation of Central America resembles that of Mexico, and it is one continued harvest-time the whole year. In the uplands of both countries there is a scarcity of forest trees, but an abundance in the lowlands.

MINERALS.

20. In the mountainous districts are the richest silver mines in the world, yielding about twenty millions of dollars annually. The gold mines produce the value of about one million of dollars annually. These mines are not so productive as under the colonial government. Copper, lead, tin, quicksilver, zinc, and antimony are plentiful. But little coal has thus far been discovered. Porphyry, jaspers, alabaster, rock crystal, talc, arsenic, and salt are found in various places.

MANUFACTURES.

21. These are few, and consist chiefly of sugar, rum, aloes, wine and brandy, earthen and stone-ware, glass, paper, thread, olive oil. The manufactures have recently, by a successful movement, begun to extend and increase in importance.

COMMERCE.

22. The commerce of these countries is carried on chiefly by foreign nations. Great Britain, the United States, France, Germany, Spain, monopolize the principal part of the trade. The commerce of Great Britain with Mexico is nearly three times as extensive as that of the United States with the same country.

The leading articles of export are gold, silver, copper, cochineal, deer skins, hides, sisal-hemp, mahogany, indigo, vanilla, sarsaparilla, cattle, julep. The imports are linens, woolens, cottons, silks, wines, brandies, ornamental ware, glass, paper, millinery, iron-wares, salted and dried fish.

NATURAL ADVANTAGES.

23. The pupil should be required to give the natural advantages of these countries, following the previous methods.

ANIMALS.

24. Among the wild animals are deer, buffaloes, several varieties of the cat tribe, bears. The forests swarm with porcupines, weasels, skunks, sloths, gluttons, ant-eaters, armadillos. The condor, confined chiefly to the Andes, is here seen in the Cordilleras, and occasionally migrates within the territory of the United States.

Birds of gay plumage are common. Monkeys are numerous in southern Mexico and Central America.

A party of these will sometimes bridge a river by forming a string extending from the top of a small tree on the one side, and then swinging the line across, the lower monkey catching hold of a tree on the opposite bank. Over this *living bridge* the others cross in safety.

The domestic animals are numerous, being easily raised on the table-lands. Some of the chief farms contain herds of 30,000 or 40,000 head of cattle.

Horses and cattle were brought from the Old World by the Spaniards, and many are now found wild on the extensive plains. Alligators, caymans, and serpents infest the wooded coasts.

INTERNAL IMPROVEMENTS.

25. There are scarcely any public roads of note; the only real important one extends from Vera Cruz to Mexico. Until quite recently nearly all the merchandise was carried on the backs of mules. Numerous lines of railway are in process of construction, which, it is hoped, will lead to the rapid development of these countries.

In a short time Mexico city will have railroad communications with all the important cities on both coasts of her own country, as well as with San Francisco, Denver, St. Louis, New Orleans, and other cities of the United States. There are no bridges of any account, and the dwellings of the people, except those of the few wealthy, are miserable hovels. There are many elegant churches in the larger cities.

INHABITANTS.

26. About one-sixth of the inhabitants are whites, who are of Spanish origin; one-half are Indians; and the remainder are mixed races—that is, *Mulattoes*, *Mestizoes*, or *Zamboes*. The descendants of Europeans, born in this country, are called *creoles*.

The Indians, to a great extent, have become civilized. They are, however, a poor and degraded race. Like their ancestors they are fond of flowers, and display great mechanical ingenuity.

In the northern part of Mexico, and in some other places, there are many tribes which roam over the country and are in a savage state.

The whites retain a good deal of the Spanish character; they are fond of show, and are addicted to expensive pleasures; to bull-fights and religious processions. An embroidered vail, costly fan, and valuable jewels are the pride of the ladies. The men love to ride on horses with rich trappings.

NUMBER OF INHABITANTS.

27. The following is a list of the inhabitants:

Name.	Area. Sq. Miles.	Population.
Mexico		9,908,000
Central America:		
Guatemala	40,800	1,191,000
Honduras	47,000	452,000
San Salvador	7,300	482,000
Nicaragua	58,000	300,000
Costa Rica	21,500	185,000
	174,600	12,518,000

Among the natives in the hot lands the superiority in number of females is noteworthy.

OCCUPATION.

28. Mining is the great and absorbing pursuit, but is not carried on with the same skill as in the United States, and many mines formerly productive are now abandoned.

Agriculture is conducted without skill or industry, yet the products of grain, fruits, sugar, cotton, etc., are considerable.

The commerce is not extensive, and is carried on chiefly by foreign nations.

Manufactures of cotton, wool, tobacco, and ornaments in gold and silver exist.

Nearly all the railroads are built by foreigners. The total length of railway lines in operation at present is about 3,700 miles. The public

highways are infested with robbers called *banditti*, who rob travelers with impunity. There are many beggars.

ARMY AND NAVY.

29. The standing army of Mexico numbers 22,367 men (1881). The navy consists of five gunboats. The national revenue \$22,000,000, and public expenditures \$20,438,000.

The following table exhibits the standing of the Central American States.

Name.	Army.	Exports.	Imports.	Revenue.	Public Debt.
Guatemala	2,180	\$4,425,000	\$3,035,000	\$4,535,000	\$7,334,000
Nicaragua	44,800	2,058,000	1,470,000	2,436,000	1,160,000
San Salvador	1,500	4,273,000	2,295,000	3,275,000	706,000
Honduras				400,000	30,000,000
Costa Rico		5,307,000		2,379,000	7,134,000

LANGUAGE.

30. The Spanish is the prevailing tongue among the white inhabitants, but a great diversity of languages and dialects is spoken among the mixed races and Indians. It is estimated that fifty different languages and more than 150 dialects are in use.

GOVERNMENT.

31. Mexico and the Central American States are federal republics, modeled after that of the United States to a great extent. But they are not prosperous, because not well administered. A great deal of anarchy has existed among the different states.

Mexico consists of twenty-seven states, one territory (Lower California), and the federal district.

Central America consists of five independent republics. All the presidents are elected for four years, except in Guatemala, where six years is the term of office.

EDUCATION.

32. Public instruction is making considerable progress in most of the states. However, education is still at a very low ebb and the great masses of the people are very ignorant. In the larger cities there are some advanced schools. Among the upper classes the men are often well informed, while the education of the women does not extend beyond a knowledge of reading, writing, and music.

Honduras is in a very degraded condition.

RELIGION.

33. The Roman Catholic religion is predominant in all the states, but all creeds are tolerated. The Indians mingle some of their ancient Mexican idolatries with the Catholic ceremonies.

CITIES.

34. *Mexico*, the capital and largest city of Mexico, and the oldest in America, is situated in a beautifully cultivated valley 7,500 feet above the sea-level, and encircled with snow-capped volcanic mountains, which afford a delightful picture.

On Lake Tezcuco, which is near the city, are extensive floating gardens, which supply the city with fruit and vegetables. Formerly the lake surrounded the city, but it has gradually shrunk, so that it now is three miles from the city. It is surrounded by walls and entered by gates. The houses are nearly all built of stone, and some are noted for their costliness. To the stranger the markets form a striking feature. Schools and churches are numerous.

Vera Crux, (the "rich city of the true cross,") is situated in a sandy, marshy, and unhealthy region on the Bay of Campeachy.

It presents an imposing appearance from the sea, and is strongly fortified. The streets are regular and the houses are built of limestone. Its harbor is a mere roadstead, and affords very insecure anchorage. The tide here rises and falls only once in twenty-four hours.

Puebla, "the city of angels," so named from its beautiful situation, is noted for its numerous and elegant churches. Some of them seem to be almost inlaid with gold and silver. It manufactures glass, shovels, pottery, earthenwares, soap, etc.

Acapulco, on the Pacific, is remarkable for its fine harbor.

Guanajuato contains many elegant private residences.

Chihuahua is called the "Cathedral City." It contains the finest cathedral in the western hemisphere.

Managua, the capital of Nicaragua, is situated on the southern shore of the lake of the same name. Its environs are picturesque.

New Guatemala is in a fertile valley, and enjoys a delightful climate.

Old Guatemala, the former capital, was destroyed by an earthquake in 1773, and 40,000 of its inhabitants perished.

The present capital was built in 1776. The houses are generally of one story, with walls three feet thick on account of the frequency of earthquakes; they are provided with gardens and fountains. The streets are broad, clean, and straight. It contains above sixty ornamental churches, besides many other handsome buildings.

San Salvador, the capital of the state of the same name, is agreeably situated in the midst of fine indigo and tobacco plantations, and has active commerce and extensive manufactures.

Comayagua, the former capital of Honduras, contains a college. The country around abounds in many remarkable ruins, and gives evidence that it was once the seat of a dense population.

Tegucigalpa, the present capital of Honduras, is on a lofty tableland, and is the largest and finest city of the republic. In its vicinity are mines of gold, silver, and copper.

San Jose, the capital of Costa Rico, lies in a picturesque valley, 4,500 feet above the level of the sea. The streets are regularly laid out, and the houses are low and devoid of beauty.

Population of the principal cities of Mexico and Central America:

MEXICO.

Cities.	Population.	Cities.	Population.
Mexico City	250,000	San Luis Potosi	40,000
Puebla	65,000	Merida	30,000
Guanajuato	62,000	Oajaca	27,000
Morelia	30,000	Saltillo	26,000
Queretaro	28,000	Matamoras	20,000
Colima	25,000	Chihuahua	12,000
Aguas Calientes	32,000	Mazatlan	13,000
Guadalajara	80,000	Acapulco	5,000
Cuernavaca	65,000	Vera Cruz	10,000

CENTRAL AMERICA.

Cities.	Population.	Cities.	Population.
Guatemala	45,000	Managua	7,000
Tegucigalpa	12,000	San Salvador	16,000
San Jose	26,000	Comayagua	10,000

HISTORY.

35. Soon after the Spaniards had discovered America, they heard vague rumors. In 1519 Fernando Cortez went thither with about six hundred men. He found Mexico to consist of a great kingdom, under the government of a king named Montezuma; it was known by the name An-a-hu-ac.

The population of the country was supposed to be eight millions. The inhabitants had made great progress in civilization.

They built large cities, with lofty pyramids, temples, and palaces. They cut the hardest stone, smelted and wrought copper, gold and silver, recorded events by paintings, and had a correct calendar. There existed a regular gradation of ranks in the empire; the pride and power of the nobles contrasting with the slavish condition of the people.

Tenochtitlan, the capital, on the site of the modern city of Mexico, was built in the midst of a lake; had regular streets, a market square, often containing 50,000 people. The population was 300,000. The city was connected with the mainland by causeways of earth and stone, one of which was seven miles long. The palace of the emperor was magnificent. The chief temple was of vast extent; and here the bloody rites of Mexican superstition were performed. Human victims, consisting of captives taken in war, were sacrificed in such numbers as to make the place seem like a slaughter house. On the lake around Mexico were hundreds of floating gardens, covered with flowers and vegetation. One hundred thousand canoes plied upon its waters, and along its borders were no less than fifty cities.

Cortez having learned of the wealth of this empire, determined to proceed to the capital. Persuading large numbers of the Tlascalans to join his little army he marched toward Mexico. As he approached, Montezuma sent him rich presents, and endeavored to persuade him to quit the city.

He, however, advanced boldly; and, as he entered the capital, was received with imposing ceremony by the king. Nothing could exceed the astonishment of the Spaniards at witnessing the abundance of gold, silver, and precious stones. Incited by avarice, Cortez laid his plans deeply and proceeded to overturn the empire. He seized the person of the king, who soon afterward died of a wound. A fierce conflict followed, and the Spaniards were driven from the city. They speedily returned, and, aided by their Indian allies, made themselves masters of the place. The great empire of Montezuma fell to pieces, and the whole country became a Spanish province, and was called "New Spain." Thus it continued for nearly three hundred years. In 1810 the Mexicans rose against the Spanish dominion; and after ten years of varying fortune they became independent.

In 1824 they adopted a constitution similar to that of the United States. Notwithstanding this, the country has been perpetually distracted by civil war, promoted by rival military leaders aiming at dominion.

Texas separated itself from the republic in 1835. In 1846 Mexico became involved with the United States, chiefly owing to a dispute about Texas. Several battles were fought—at Palo Alto on the 8th of May, and at Resaca de la Palma on the 9th. In both these the Americans, led by General Taylor, were victorious. Monterey, a large town in the north, near the Rio Grande, capitulated to the Americans on the 24th of September. In March, 1847, the city and castle of Vera Cruz were taken, and General Scott marched toward the capital. At Cerro Gordo he obtained a complete victory over the enemy on the 17th of April. Thence he marched onward, successfully occupying the cities of Jalapa and Puebla. Nearly all the towns on the coast were in the possession of the Americans. On the 17th of February, 1847, General Taylor, with 4,000 men, met Santa Anna at Buena Vista with 20,000, beating and scattering the entire force.

On the 15th of September the Americans entered Mexico, and took possession of that capital. Negotiations followed, and peace was ratified at Guadalupe Hidalgo, February 3, 1848. By this the Rio Grande and Gila were fixed as the boundaries between the two countries; and in 1854 an additional territory was ceded to the United States.

Central America was conquered by Alverado, who was sent thither immediately after the conquest of Mexico by Cortez in 1523. It threw off the Spanish yoke in 1821. For two years it was united under the government of Mexico, and in 1823 became the United States of Central America.

States rights finally prevailed, and they are now separate independent republics, but anarchy and confusion has reigned supreme.

Belize.—This province deserves special mention. It is a strip of land where the British have a colony. The country produces logwood, fustic, braziletto, sarsaparilla, cedar, cotton, indigo, etc. Wild animals, birds, fish, and turtle are abundant. The inhabitants are chiefly Indians and Negroes.

Belize, the capital, has a large trade and is surrounded by a cocoanut plantation.

CHAPTER XIV.
WEST INDIES.

MAP EXERCISES.

Locate the following :

CAPES.

San Antonio, Corrientes, Cruz, Lucretia, Engano.

GULFS AND BAYS.

Buena Esperanza, Nipe.

CHANNELS, STRAITS, ETC.

Yucatan, Windward, Mona, Florida.

ISLANDS.

Cuba, Hayti, Jamaica, Porto Rico, Greater Antilles, Lesser Antilles, Bahamas, Windward, Leeward, Isle of Pines, St. Andrews, Great Abaco, Cat, Great Inagua, St. Thomas, Guadaloupe, Dominica, Martinique, St. Vincent, Grenada, Trinidad, Margarita, Curacoa, Tortuga.

MOUNTAIN RANGES.

Organ, Sierra Maestra, Cibao, Blue.

LAKE.

Salt Lake.

RIVERS.

Cauto, Artibonite.

CITIES.

Havana, Matanzas, Puerto Principe, Santiago de Cuba, Kingston, Spanish Town, Port au Prince, San Domingo, San Juan, St. Thomas, Nassau, Spanish Port.

RELATIVE POSITIONS.

In what direction is Havana from Spanish Town? from St. John? from Trinidad? from Vera Cruz? from Pensacola? from New York? from Rome?

TRAVELS.

Trace a water route from Havana to St. Louis; to Chicago; to Baltimore; to Columbus; to Spanish Town.

MISCELLANEOUS.

What is the latitude of the following places:—Havana, Port au Prince, St. John? What is the longitude of the same places? In what direction would your shadow fall to-day at San Domingo? What is the distance in miles on a straight line from San Domingo to Havana? to St. John? to Spanish Town? to South America? to Cape Gracias a Dios? What cities in the United States have nearly the same longitude as Havana? What is the meridian altitude of the sun at Havana on June 21st? at Trinidad island?

DESCRIPTION.

POSITION.

1. The West Indies consist of a vast archipelago, lying between the Gulf of Mexico, the Caribbean sea and the Atlantic ocean. They form a string of stepping stones, as it were, from Florida to the Orinoco; they are in sight of one another almost all the way.

They are divided into four groups: (1), the *Bahamas*, lying to the north-east; (2), the *Greater Antilles*, including the four large islands,—Cuba, Hayti, Jamaica, and Porto Rico; (3), the *Lesser Antilles* or *Caribbean* islands, also called the Windward group, extending south-east from the latter to the mouth of the Orinoco river; (4), and the Leeward islands, extending along the northern coast of South America. In latitude they extend from 10° to 28° north; in longitude from 59° to 88° west.

EXTENT.

2. They extend in length 1,650 miles, and 1,250 miles in breadth. Area, 96,000 square miles.

DISTANCES.

Havana to New York	1,500 miles.
“ “ Mexico	1,050 “
“ “ Toledo	1,300 “
“ “ San Francisco	2,400 “

COAST.

3. There are a number of deep inlets along the coasts of the larger islands, and some excellent harbors. Cuba, “Queen of the Antilles,” has over 2,200 miles of sea coast, but almost its whole circumference is surrounded by reefs and shallows, extending from two to three miles into the sea, and so render navigation both difficult and dangerous. Notwithstanding this, Cuba has over 200 ports and sheltering landings. The extreme irregularity of the coast is due to the ease with which coral and limestone reefs are acted upon by the water.

The shores of Hayti are swampy in the east, but elsewhere bold and surrounded by reefs.

CAPES.

4. *Cape Corrientes* and *San Antonio* project from the west coast of Cuba; *Cape Creux* from the south-eastern.

GULFS AND BAYS.

The most important inlet is *Buena Esperanza* bay, on the south-eastern coast, and tributary to the Caribbean sea. The other bays are mostly small.

CHANNELS AND STRAITS.

6. The following is a list of the principal channels and straits:

Name.	Width.	Name.	Width.
Yucatan	120 miles.	Florida	50 miles.
Windward Passage . . .	48 "	Mona	80 "

ISLANDS.

7. The following is a list of the principal islands:

Name.	Length Miles.	Breadth Miles.	Area Sq. Miles.	Population.
Cuba	760	50 to 110	43,000	1,400,000
Hayti	410	60 to 150	30,000	708,500
Jamaica	140	53	4,250	506,000
Porto Rico	90	63	3,800	636,000
Isle of Pines	60	55	600	2,000
Trinidad	50	30	1,750	110,000
Bahama	600		3,000	40,000

There are about 1,000 islands altogether, of which 600 are contained in the Bahama group.

SURFACE.

8. More than four-fifths of the surface of Cuba is lowlands, with occasional swamps; but it is traversed in various directions by ranges of mountains, some of which rise to a height of 7,675 feet. Along the sea shore there is a belt which is subject to floods and inundations, being so little above the sea.

The center of the island of Hayti is a mountain region, while along the coast are extensive plains; the largest is in the south-east, eighty miles in length.

Jamaica is diversified with mountain, hill, and plain.

Of the 600 Bahamas but seventeen are inhabited; the surface of most of them is so low and flat that the waves of the sea sometimes sweep across them; they are of coral formation.

Many of the Lesser Antilles are mere rocks, projecting above the sea; others are rugged and volcanic.

MOUNTAIN RANGES.

9. The *Organ* mountains intersect Cuba lengthwise; the highest peak is *Pico Turquino*, "blue peak." The *Blue* mountains are in Jamaica; and the *Cibao* in Hayti. There are several active volcanoes.

OBJECTS OF INTEREST.

10. Many of the larger islands contain much fine scenery. Cuba is especially noted for its charming climate, and its most varied and beautiful landscapes. The *Pitch Lake*, on the island of Trinidad, is the most remarkable phenomenon; it is one and one-half miles in circumference, and of unknown depth.

The pitch on the sides is hard and cold, but in the center is a boiling liquid. It yields pitch and petroleum. From it a substance is made with which some of the streets of Paris are paved.

The island of *St. Vincent* contains the remarkable volcano Soufriere, noted for its tremendous eruptions, its crater is three miles in circuit, and 500 feet deep.

LAKES.

11. Lakes are numerous but small; and for the most part unimportant. The largest is *Enriquillo*, of Hayti, twenty miles long and eight wide. It is salt. From some of the salt lakes considerable salt is obtained.

RIVERS.

12. The rivers are short and generally precipitous. The *Cauto* of Cuba is the largest; length, seventy miles.

SOIL.

13. The soil of the West Indies is remarkable for its fertility and productiveness.

CLIMATE.

14. The climate of these islands is for a great part of the year mild and pleasant, the heat being in some measure moderated by the uniform length of the nights, and by refreshing sea breezes. The average temperature ranges from 73° to 78° in the different parts. In the lowlands the climate is regarded as unhealthy.

The seasons are divided between the wet and the dry. Jamaica and the islands south have two wet seasons, occurring in May and October of short continuance, and during the rest of the year the sky is clear, and the nights are remarkable for their brilliancy. North of Jamaica there is one wet and one dry season each year; the rainy season lasting from May to November.

Some parts of Cuba are subject to droughts. In the interval between the months of August and October the islands are visited by

those terrible storms called hurricanes, to which the regions of the torrid zone are liable.

They begin in various ways, but are, in general, preceded by a profound calm; this is followed by a chaos of varying elements, lightning, and thunder, rain, hail, and impetuous blasts of wind which move with a swiftness exceeding that of a cannon ball. Corn, vines, forests, and houses are swept away before their violence which, however, is of but short duration. These tempests are of electric origin, and serve the purpose of purifying the atmosphere.

AGRICULTURAL PRODUCTIONS.

15. The West Indies abound in all the productions of warm climates; the fruits are shaddocks, oranges, lemons, pine-apples, bananas, plantains, etc.; manioc, yams, maize, etc., with sugar-cane, guava, cocoa, cotton, coffee, indigo, tobacco, etc., are the staple products.

Two crops of corn may be raised each year. The forests contain mahogany, lignum-vitæ, ironwood, and other woods useful in the arts. Some of the forest trees contain wood almost as hard as iron; others are imperishable under water. "For fine furniture they are unrivaled." Dye-stuffs and drugs are common.

MINERALS.

16. Coal exists in considerable quantities in Cuba; Cuba is very rich in minerals; Porto Rico copper is also abundant. The other most important minerals are gold, silver, platinum, mercury, iron, tin, sulphur, manganese, antimony, rock salt, bitumen, jasper, and marble. Turks islands are famous for the manufacture of salt; it is obtained from the sea water and evaporated in the sun, in salt pans. It is hard and coarse. The islands are utterly barren and all supplies are imported. Jamaica is noted for its lead and limestone. In the Island of Pines are beautifully colored marbles, and white marble scarcely inferior to statuary marble. Extensive caves exist on Jamaica, Hayti, and at Matanzas. The mineral resources are yet imperfectly developed in most of the islands.

MANUFACTURES.

17. The manufactures are limited, consisting chiefly of sugar, cigars, and all kinds of prepared tobacco; the tobacco of Cuba is noted for its aromatic qualities, and is regarded the finest in the world.

COMMERCE.

18. The commerce of these islands is extensive and valuable, and is carried on chiefly with the United States, England and Spain. The chief exports are sugar, molasses, leaf tobacco, cigars, coffee, wax, of which the United States purchases to the amount of \$15,000,000 annually.

The leading imports are jerked beef, codfish, flour, rice, lard, lumber, wines, oats, olive oil, coal oil. Of these articles lard, oats, lumber, coal oil, and whale oil come from the United States. Two-thirds of all the sugar imported into the United States, and nearly all the tobacco, comes from the West Indies.

ANIMALS.

19. The wild boar, monkeys, and lizards of various kinds are found. Fish are very abundant. Sea turtle are common along the shores. Birds are characterized for their beautiful and varied plumage and lack of song. Macaws, parrots, wild Guinea-fowl, quails, pigeons, water-fowl, the humming-bird, mocking-bird, etc., are common. Reptiles and insects are the pest of the islands.

The ladies of Cuba fasten the *Lightning Spring Beetle* in their hair as ornaments at evening parties.

This animal has two cone-like projections at the sides of the thorax, which emits a light like two shining emeralds.

There is a native dog in Cuba without hair.

INTERNAL IMPROVEMENTS.

20. The roads formerly were very poor, but of late years many good roads have been built. Railroads now connect all the most important places. Some fine public buildings are to be seen in the cities, but many of the streets are ill-paved. Whole number of miles of railroads is about 600.

INHABITANTS.

21. The inhabitants of the West Indies are whites, negroes, and mixed races; the negroes comprise six-sevenths of the whole population. In the Spanish possessions two-thirds are slaves. The native races of these islands are now extinct.

When these islands were first discovered by the Spaniards, they were inhabited by a mild, peaceful and numerous people, who had made some advancement in civilization, but they were reduced to a state of slavery by their cruel conquerors, and worked to death. Many negroes were also brought from Africa and made slaves of.

Total population of West Indies, 4,382,000.

OCCUPATION.

22. The leading pursuits are raising and gathering tropical fruits, agriculture, grazing, and manufacturing. But the people in general are noted for industry. Sponge fishing is a great pursuit on some of the Bahamas and others. Nassau takes the lead.

LANGUAGE.

23. These islands are all, except Hayti, foreign possessions, and the inhabitants speak the language of the countries by whom they were colonized. The majority of the people speak Spanish.

GOVERNMENT.

24. San Domingo is divided into two states, each of which is an independent republic. Cuba, Porto Rico, and the Isle of Pines belong to Spain.

The Bahamas, Jamaica, and most of the Lesser Antilles belong to Great Britain; Guadaloupe, Martinique, Marie Galante, belong to France. Curacao, Buen Ayre, Oruba, Los Roques, St. Eustatius, Saba, belong to Netherlands; St. Johns, St. Thomas, and Santa Cruz, belong to Denmark; St. Bartholomew, Tortuga, Margarita, belong to Norway and Sweden.

EDUCATION.

25. Education is at a very low ebb in most of the West Indies. A number of schools and colleges exist; these afford advantages for the upper classes; private schools are supported in many places. About forty per cent. of the white and five per cent. of the blacks are able to read and write.

RELIGION.

26. The religion is chiefly Roman Catholic, except in the British possessions, where Protestantism generally prevails.

CHIEF CITIES.

27. *Havana*, the capital and chief city of Cuba, situated on the northern coast, is one of the largest and richest cities in America, and has one of the best harbors in the world.

The entrance of the port is defended by two forts, and several other military works, which render Havana one of the strongest places in the world. The buildings are less remarkable for their beauty than for their solidity, and the streets are, in general, narrow, dirty, and unpaved. There are, however, some fine public walks and handsome edifices. The climate is unhealthy for strangers. It is the greatest sugar market in the world, and the second in the New World in foreign commerce; and its cathedral contains the remains of Christopher Columbus.

Sixty miles to the east is *Matanzas*, a flourishing place, upon a fine harbor, and healthy situation.

Puerto Principe, lying in the interior, is remarkable only for its narrow, winding, and filthy streets.

Santiago is a flourishing place on the southern coast. Its harbor is excellent, but the town is unhealthy. It has the largest cathedral on the island.

St. John, the capital of Porto Rico, has a spacious and well fortified harbor, and considerable commerce.

Kingston, the principal city of Jamaica, is well built, with broad, straight streets, handsome houses, and has an excellent harbor. Its commerce is extensive.

Port au Prince, the capital of Hayti, is a well built city, on a safe and convenient harbor on the western coast.

St. Domingo is the capital of Dominica, and is the oldest European town on the western continent, having been founded by Bartholomew Columbus in 1494.

Cienfuegos is the most beautiful city on the island of Cuba. The streets are wide and straight, and the houses are surrounded with beautiful gardens.

Cities.	Population.	Cities.	Population.
Havana	230,000	Matanzas	36,000
Kingston	34,000	Port au Prince	31,000
St. John	27,000	San Domingo	12,000
Santiago	45,000	Puerto Principe	31,000
Spanish Port	20,000	Spanish Town	6,000

HISTORY.

28. The first land discovered by Columbus in America was one of the Bahamas, Guanahani, now Cat Island. They remained uninhabited till 1629, when a settlement was made by the English at New Providence. Cuba was discovered by Columbus on his first voyage in 1492. It was then very populous. The Spaniards made their first settlement in 1511 and in a few years they exterminated nearly all the natives. It has been the scene of frequent revolutions.

Porto Rico was discovered by Columbus on his second voyage in 1493. Juan Ponce de Leon planted a colony here in 1509. The natives, supposed to number 600,000, shared the same fate as those of the other Spanish islands, and soon disappeared under the oppressions and persecutions of their cruel masters. In the latter part of the seventeenth century it was taken by the English, but soon abandoned. Since then it has remained a Spanish colony.

Hayti was the first island occupied by the Spaniards. The island was found to contain a numerous population. Harrassed and oppressed beyond endurance, by the Spaniards, the natives fled to the mountains, where they were pursued by dogs and shot down by the soldiers, so that in the short space of a half century nearly the whole population, numbering half a million, had wasted away from the island. After this, it, with other islands, was exposed to the atrocities of the Buccaneers, who came in pursuit of cattle, but afterward became formidable pirates. After the expulsion of the Buccaneers from Hispaniola, or Hayti, the French made settlements there; and at length in 1631 the court of Spain ceded to France the western half of the island, the eastern portion continuing to be occupied by the Spanish settlers. Such was the state of things at the commencement of the French revolution. The National Assembly abolished slavery in the French colonies. Excited by a wild impulse, the slaves of this island were thrown into a state of insurrection. A scene of fearful bloodshed and desolation followed. All the whites on the islands either fled or were massacred. After a series of changes in government it was finally divided into two independent powers.

Jamaica was discovered in 1493 by Columbus, but the Spaniards not finding any gold here, paid little attention to the island. It was subsequently captured by the English, and under their government soon rose to importance. In the

height of its prosperity, its capital, Port Royal, a splendid and opulent city, was destroyed by a dreadful earthquake, burying thousands of inhabitants in the ruins, and ingulfing millions of wealth in the sea.

Bermudas.—Though not strictly belonging to the West Indies, these will be described here. They lie to the north-east of the Bahamas, and consist of a group of small islands (365), and are visited by terrible storms. They have a beautiful climate, and the soil yields every variety of tropical vegetation. The seas around are stored with fish, turtle, and whales.

The oysters on the rocks sometimes contain pearls. North Carolina, the nearest land, is 600 miles distant. These islands were discovered by Juan Bermuda, a Spaniard, in 1522, but were subsequently taken by the English. Area, $18\frac{1}{2}$ square miles; population, 13,000.

CHAPTER XV.

SOUTH AMERICA.

MAP EXERCISES.

Locate the following:

CAPES.

Gallinas, St. Roque, St. Thome, Frio, San Antonio, Corrientes, Blanco, Horn, Parina, St. Helena, Pta. Aguja, Orange.

GULFS AND BAYS.

Arica, Guayaquil, Choco, Panama, Venezuela, All Saints, Formosa, Laguna Dos Patos, San Matias, St. George.

ISLANDS.

Trinidad, Marajo, Falkland, Staten, Tierra Del Fuego, Desolation, Wellington, Chiloe, Chonas Archipelago, Galapagos, Juan Fernandez, Chinchu, Lobos.

MOUNTAIN RANGES.

Andes, Acarai, Parima, Organ, Sra De Mar, Sra Manteiqueira, Sra Espinhaco, Geral.

MOUNTAIN PEAKS.

Cayambe, Cotopaxi, Chimborazo, Arequipa, Sahama, Gualatieri, Nevado De Sorato, Aconcagua, Itacolumi, Itambe, Potosi, Illimani.

LAKES.

Maracaybo, Titicaca.

RIVERS.

Amazon, Rio Negro, Orinoco, Purus, Magdalena, Japura, Madeira, Jurua, Tapajos, Xingu, Tocantins, Javari, Ucayale, Casiquiare, Parana, San Francisco, Para, Rio De La Plata, Uruguay, Paraguay, Vermejo, Salado, Pilcomayo, Colorado.

TOWNS.

Rio Janeiro, Bahia, Buenos Ayres, Montevideo, Assumption, Santiago, Sucre, Potosi, La Paz, Lima, Callao, Arequipa, Quito, Bogota, Panama, Cartagena, Maracaybo, Caracas, La Guayra, Georgetown, Paramaribo, Cayenne, Obidos, Para, Santarem, Mendoza, Parana, Concepcion, Valparaiso, Cobija, Chagres, Aspinwall, Guayaquil.

RELATIVE POSITION.

In what direction is Bogota from Caracas? Rio Janeiro? Lima? Montevideo? Galapagos Isles? Cape Orange from Bahia? Cotopaxi? Buenos Ayres? Horn? Gallinas?

TRAVELS.

What countries would you cross in traveling by land from Cape Horn to Panama? from Santiago to Bahia? to Cayenne? Trace a water route from Assumption to Rio Janeiro; to Santiago; to Chicago; to London; to Baltimore; to Obidos; to Olympia.

MISCELLANEOUS.

Of what does the greater part of South America consist, plains or mountainous country? Locate the principal plains. How do you account for the absence of large rivers west of the Andes? Give the latitude and longitude of all the capitals. What states are crossed by the equator? what by the prime meridian of Washington? What countries border on the Pacific? In what direction would your shadow fall at noon to-day in Chili? Does the sun set at Rio Janeiro before or after it sets at Washington? What is the difference of time? How does the time at Lima differ from that of Washington? How did America receive its name? What is the most southern land of the globe?

DESCRIPTION.

POSITION.

1. (1) It is bounded on the north by the Caribbean sea, and Atlantic ocean; on the east by the Atlantic; on the south by the Atlantic and Pacific; and on the west by the Pacific and Central America.
- (2) It lies between the parallels 55° south and 12° north latitude, and between the meridians 35° and 82° west longitude.

EXTENT.

2 It is 4,800 miles long and 3,000 miles wide. Area is 6,939,000 square miles.

Distances from Rio Janeiro:

To Bogota	2,700 miles.	To Lima	2,300 miles.
To Cape Horn	2,600 "	To Obidos	1,625 "
To Panama	3,150 "	To Buenos Ayres	1,250 "

COAST.

3. *General Outline.*—The coasts of South America are more regular than those of North America. Few indentations of great extent exist, but there are many harbors, some of which are among the finest known. In some places the coast is low and marshy, and the harbors are shallow; and in other places along the Pacific the shores are bold and rocky. The coast line measures 16,500 miles.

CAPES.

4. The most prominent capes are *Gallinas* on the north, *St. Roque* on the east, *Horn* on the south, and *Parina* on the west. *Cape Frio* is a huge mass of granite, 1,570 feet high; other capes are *Orange*, *Corrientes*, *Blanco*, etc.

GULFS AND BAYS.

5. *Guayaquil* is in the western part of Ecuador; *Venezuela* is a shallow gulf in the north; *Arica* lies west of Peru, etc. It will be observed that the gulfs and bays are small and few in number.

SEAS AND CHANNELS.

6. The *Caribbean* sea washes the northern shores of Columbia and Venezuela, and affords some valuable harbors.

The *Strait of Magellan* is between the *Tierra del Fuego* islands and the main land; it is 300 miles long and from five to twenty miles wide, and is difficult of navigation. Tides rise here to the height of fifty feet. This strait was discovered by Magellan, a Portuguese navigator, in 1520.

ISLANDS.

7. The *Falkland* islands are about ninety in number. They are cold and desolate, but important as furnishing harbors for whaling vessels. They belong to Great Britain. The islands of *Tierra del Fuego*, or *Land of Fire*, received their name from the volcanic fires supposed to be seen on them; Magellan gave the name. This is the most southern inhabited part of the globe.

They are mountainous, and the soil consists of swampy peat; and, to the height of 1,500 feet, forests of beech cover the island. The coasts are rocky and

are beset with frequent tempests. They are inhabited by a few rude, poor, ignorant but peaceable natives, who live by fishing. They are the resort of numerous sea-fowl.

Staten Land, to the east, has an English settlement. There are numerous islands skirting the western shores of Chili, but they are for the most part desolate and sterile.

The *Lobos* and *Chincha* islands on the coast of Peru are noted for their rich deposits of guano, the offal of sea-fowl and seal. They are destitute of rain and are utterly barren.

Juan Fernandez lies west of Chili, and was for several years the solitary residence of Alexander Selkirk, whose adventures gave rise to the famous Robinson Crusoe. Rich copper mines are found here.

Chiloe is an important island on the western coast of Chili. It is 120 miles in length by fifty in breadth, and is mountainous and covered with heavy forests. The western coast contains rocky masses rising abruptly from the sea to a height of 1,500 to 3,000 feet. The potato is a native of this island. Other products are wheat, barley, apples, cattle, sheep, hogs, timber, valuable coal, and an abundance of shell-fish.

Bananal (also known by the names *New Beira* and *Santa Anna*,) is a large island in the Uruguay river. It is 200 miles long and thirty-five broad, and contains a navigable lake ninety miles long by thirty broad. It was named from the rapid increase of banana trees planted there by the discoverer in 1773.

The *Galapagos*, or *Turtle* islands, lying west of Ecuador, received their name from the immense tortoises existing there. These islands belong to Ecuador.

Falkland	4,700 sq. miles.
Trinidad	1,754 "
Marajo	nearly 2,200 "
Tierra del Fuego	nearly 3,000 "
Chiloe	nearly 3,846 "

PENINSULAS.

8. The peninsulas of South America are few and small in size. The following are the chief: *Paraguana* from Venezuela, *Tres Montes* from Chili, and *St. Joseph* from south-eastern Argentina.

GENERAL CHARACTERISTICS OF THE SURFACE.

9. South America is noted for its long and lofty range of mountains, its numerous volcanoes, its extensive plains, great rivers, and rich minerals. The Andes in the west, while not so broad as the Rocky, are higher and more abrupt. The ranges along the eastern shore correspond to the Apalachians, but are not quite so high.

The surface may be divided into three parts—the western, middle, and eastern. The western consists of an extensive plateau, elevated

nearly 12,000 feet above the sea-level, and surmounted by the lofty Andes. The middle lies to the east of this, and is several times broader. Within this great belt are found the Pampas of Argentina, the Llanos of the Orinoco, the plateau of Guiana, the table-land of Brazil, and the great Selvas of the Amazon.

Nothing can exceed the fertility and the rich vegetation of these regions.

The eastern portion, embracing the eastern part of Brazil, is moderately elevated.

MOUNTAIN RANGES.

10. There are three systems of mountains in South America. The *Andes* begin in the southern part of Patagonia, and extend to the Isthmus of Panama, where they are connected with the great chain in North America. Their general course is along the Pacific, about 180 miles from the coast; but as seen from the sea, they look like an immense wall rising out of the water. They consist of isolated peaks, covered with perpetual snow. Sixty of them are volcanic and always active. Earthquakes are common at the north and west. *Mount Sorata*, in Bolivia, is the highest mountain in the western continent. The *Brazilian Coast* ranges are of not great elevation.

The *Parime* mountains extend along the southern shore of Venezuela, and the *Acarai* are on the boundary between Guiana and Brazil.

MOUNTAIN PEAKS.

11. South America is especially noted for its lofty peaks. *Cotopaxi*, *Gualatieri*, and *Chimborazo* are among the most noted volcanoes.

The former is the most terrific and the highest volcano in the world. The noise of its eruptions have been heard for more than 600 miles, and flames have been seen to shoot from its summit one-half mile.

Mount Pichincha, popularly known as the "boiling mountain," is in north-western Ecuador; its crater is 2,500 feet deep, the deepest in the world.

The following are some of the principal peaks:

Name.	Height.	Name.	Height.
Gualatieri	21,960 feet.	Cotopaxi	18,880 feet.
Chimborazo	21,420 "	Sorata	24,812 "
Aconcagua	22,420 "	Illimani	21,224 "
Potosi	16,150 "	Cayambe	19,535 "
Sahama	22,350 "	Tolima	18,120 "
Duida	8,000 "	Andes (mean height) . .	12,000 "

PLAINS, PLATEAUS, ETC.

12. The *Pampas* are extensive plains of Argentina. They resemble our prairies. They cover an area of 1,600,000 square miles, and in many places are as level as the sea, with not an object to break the

monotony. During the wet season they are covered with a rich vegetation. Thistles grow here from 10 to 15 feet high. During the dry season they become arid wastes.

The *Selvas of the Amazon* is the most extensive forest region in the world. The trees are of the most gigantic size and endless variety.

So dense are they that it is almost impossible to penetrate them. Climbing vines, bearing leaves and flowers of the most exquisite beauty, hang from the branches of the trees in festoons. The whole is so completely interwoven that if you should attempt to pull one tree away you would have to pull the whole forest.

Birds of the most gaudy plumage, like gems in the sunlight, are seen flitting among the branches, and seem to heighten the beauty of the magnificent forest. Its area is 700,000 square miles.

The *Llanos of the Orinoco* occupy an extensive treeless region in the northern part of South America. During the rainy season it is a vast meadow, covered with the finest of vegetation to such an extent that it is called the "sea of grass." Millions of horses and cattle find subsistence upon it.

Before the dry season has ended it becomes a scorched and arid desert, and the winds whirl the dust in dense clouds. The cattle during this season betake themselves to the mountains, and the reptiles, such as alligators and serpents, bury themselves in the mud, there to remain in a torpid state until the return of the tropical rains. It has an area of about 160,000 square miles.

The *Pampas del Sacramento* are vast plains in the north-eastern part of Peru, and embrace the valley of the Ucayale. They cover an area of 60,000 square miles. Though in most parts without trees, in other places they are covered by dense and magnificent forests.

DESERTS.

13. The *Desert of Atacama* lies on the west, between the Andes and the Pacific. It is a sandy, sterile region, 450 miles long by about fifty in width. In this region it never rains.

The *Desert of Sechura*, in the north of Peru, is seventy-five miles long. A large district of the plateau land of Bolivia is called "the Despoblado," or "the Uninhabited," from the dryness and severity of the climate. The *Desert of Pernambuco*, in the north-eastern part of Brazil, consists of hillocks of moving sand, with an occasional oasis, or fertile spot. It is very extensive.

NATURAL CURIOSITIES.

14. South America is not lacking in objects of interest. The great mountain chains abound in gorges, deep and gloomy valleys, magnificent cascades, sublime views. The scenery of the Guianas is wonderfully picturesque.

The *Great Koietaur* makes a single leap of 822 feet. The immense "breaks" of the Andes are among the grandest features.

To South America has been given the title "Land of Beauty," particularly from that wondrous, beautiful scenery in which the Andes are so rich. The magnificent cataract of *Tequendama* is on the Magdalena river, where the stream leaps over a precipice 475 feet high.

A curious spectacle is to be witnessed at the return of the rainy season in the Llanos of the Orinoco. The moistened clay on the margins of the swamps is sometimes seen to blister and rise slowly in a kind of mold; then with a violent noise, like the outbreak of a small mud volcano, the heap of earth is cast high into the air, and forth issues the gigantic water snake and scaly crocodile which has lain hid in the dried-up mud during the dry season.

The extensive plains, by their rich and varied vegetation, are objects of great interest to the traveler.

LAKES.

15. This continent is deficient in lakes. The largest is *Lake Titicaca*, on the boundary of Peru and Bolivia; it is 240 miles in circuit, 600 feet deep, and covers an area of 4,000 square miles. Evaporation, because of the rarefied air, is enormously active.

It is the highest in South America, and is one of the highest in the world, having an altitude of 12,900 feet above the sea-level. There are many ancient ruins truly wonderful, and their history is very interesting; these ruins are said to be the oldest in America. It empties itself through the Desaguadero river into Lake Aullago. The latter is salt.

Lake Maracaybo is sometimes called a gulf. It is situated in the north-western part of Venezuela, and is about 150 miles long and seventy-five wide. The water is brackish, and too shallow to float large boats. It is connected with the sea by a channel forty-five miles long and from four to fourteen miles wide.

On the north-east shore there is a mine of mineral pitch, which, during the hot months, emits a phosphorescent light resembling lightning, and is called by navigators the "Light-house of the Maracaybo."

Lake Valencia, in Venezuela, is thirty-four miles long. There are a number of small, shallow lakes in Argentina, but as many of them entirely disappear during the summer, they are unimportant. *Porongos* and *Bevedero* are among the principal.

RIVERS.

16. South America is one of the finest watered countries on the globe. The *Amazon*, though not the longest, is the largest river in the world. It has twelve tributaries, each more than 1,000 miles in length.

The Amazon, with its tributaries, affords not less than 50,000 miles of steam-boat navigation. It has 1,500 navigable tributaries. The first 500 miles of its course is a continuous series of rapids, but from this the current is easy and graceful. At a distance of 2,000 miles from its mouth it is three miles wide, and

increases in width to its mouth, which is an estuary 180 miles wide. Tides are perceptible 400 miles from its mouth; they usually move this distance in six hours, but sometimes they occupy but a few minutes, when the tide wave is twelve to fifteen feet high, and, with a roar that can be heard five or six miles, rushes up this whole distance with a destructive energy that carries ruin to everything in its way. Such a tide is called a *bore*.

The *Orinoco* is a deep, sluggish stream, with not less than 400 navigable tributaries.

This river has so little fall that the winds drive the waters up the stream, sometimes causing disastrous inundations.

During the rainy season, which occurs in July and August, the river is very high. Large areas are covered with water, and the lower valley is converted into an inland sea. Near its mouth it is sixty-five fathoms deep. Just above the deltas the river is four miles wide, and empties its waters into the sea through fifty mouths.

The *Rio de la Plata* is a river, or rather an estuary, formed by the Parana and Uruguay rivers. It is 170 miles wide at its mouth. Its waters are very muddy. The length is about 200 miles; with Parana and Paraguay it measures about 2,500 miles.

The *Casiquiare* joins the Rio Negro to the Orinoco. After a south-west course of 130 miles it falls into the former.

It is a very rapid stream, but this does not prevent boats from passing out of its system into the others. Where it leaves the Orinoco it is 250 feet wide, and increases in width till it joins the Rio Negro, with a breadth of 2,500 feet.

The *Paraguay* and *Madeira* rivers have their sources in the same depression. During the rainy season it is possible to pass by boat from the Paraguay into the Madeira or Tapajos, and thence into the Orinoco, as at this season the head-waters are united. A boat may thus enter the mouth of the Orinoco and again reappear in the Atlantic through the La Plata.

There are no large rivers on the western side of the Andes, owing to the short distance to the sea.

The following is a list of the principal rivers of South America:

Name.	Length. Miles.	Area of Basin. Sq. Miles.	Miles of Navigation.
Amazon	4,000	2,800,000	3,000
Orinoco	1,550	340,000	nearly throughout.
Rio de la Plata	2,500	1,250,000	1,250
San Francisco	1,600	250,000	900
Madeira	2,000		1,000
Magdalena	900	100,000	300
Parana	2,000		1,000
Paraguay	1,600		1,500
Rio Negro	1,200		1,000
Colorado	1,000		120
Tocantins	1,000	384,000	100
Tapajos	500		300
Xingu	1,300		100

SOIL.

17. South America has a larger area of productive soil than any other grand division. It is almost everywhere noted for its extreme fertility, which is due mainly to the warm climate and great abundance of rain-fall.

The southern part, known as Patagonia, is sterile, as well as the desert previously mentioned.

CLIMATE.

18. The climate of South America is remarkable. In the low and level parts, near the equator, the temperature is always that of summer. The trees are clothed in perpetual verdure, the flowers are ever in blossom, and fruits ripen at all seasons, while often the ripened fruit and the opening blossoms hang side by side.

In those parts which are well watered, vegetation becomes exuberant, animals increase, and reptiles and insects are multiplied without end.

Never checked by the return of winter, animals and vegetation go on producing and reproducing, till the whole face of nature seems to be teeming with animal and vegetable life. The exhalations, which arise from the marshy soil and vegetable putrefaction render the air extremely unhealthy.

In the elevated plains, the temperature is cold and delightful.

Throughout the year the climate has the charms of spring. In many places two crops of wheat and four crops of corn may be reaped in a year. Sowing and planting can be done every day, and harvests are always ripening.

West of the Peruvian Andes rain does not fall, and thunder and lightning are unknown. In the northern portion of this rainless region dense fogs, called "*garua*," occur in the morning from June to November, bathing the vegetation and changing the fine dust to mud. They are caused by the commingling of the ocean currents from the south and the warm water along the coast. Wheat and other grains are piled upon the wharves and left lying there for months without the least protection.

Heavy dews fall in this region and so render the soil productive. Not a cloud is seen to disturb the serenity of the sky.

A few years ago, for the first time within the memory of man, did the people west of the Andes witness a thunder-storm. So great was their fright, in their belief that the world was coming to an end, that they broke open their churches and began to invoke the protection of the Almighty.

On the mountains it is cold; at a height of 15,000 or 16,000 feet winter establishes perpetual dominion.

Thus, in the same latitude, and within the compass of a few hundred miles, are three distinct zones, each having its own temperature, and its own peculiar classes of trees, plants, and animals.

AGRICULTURAL PRODUCTIONS.

19. This continent is remarkable for its vegetation; two-thirds of its surface is said to be covered with forests. Among the native productions are eight species of palms, distinguished for their beauty and size, furnishing wines, oil, wax, flour, sugar, and salt; fourteen species of Peruvian bark, from which quinine is made, gum guaiacum, India rubber, cacao, vanilla, maize, or Indian corn, the potato, cassava, and two hundred and fifty varieties of wood useful for carpentry and dyeing. Coffee, sugar, cotton, indigo, and grains of various kinds are abundantly produced by cultivation.

In the rainless region wherever there is water, it is like a conservatory without glass; the most beautiful flowers and delicious fruits are produced.

MINERAL PRODUCTIONS.

20. Granite forms the foundation of this continent. The precious metals are abundant in Peru, Bolivia, Brazil, and Chili.

The copper mines of Chili are among the most productive in the world. Brazil furnishes nearly all the diamonds of commerce.

Emeralds of the finest quality in the world are found in Columbia and Venezuela. Iron and lead abound in Brazil. Coal and iron are mined in Chili.

The mineral resources of this continent have been but partially explored, and the future must yet reveal to the world the extent of its mineral wealth.

COMMERCE.

21. The commerce of South America is already considerable, and is carried on chiefly by foreign nations.

The leading exports are guano, wool, nitre, copper, Peruvian bark, tin, hides, horns, tallow, cotton, diamonds, beef, Brazil wood, indigo, cattle, tobacco, coffee, rum, dyewood, cocoa, caoutchouc, and cayenne pepper.

The imports are machinery, agricultural implements, petroleum, hardware, lard, flour, ice, biscuits, coal, hams, boots, shoes, soap, etc., from the United States; cotton, woolens, and linens from Great Britain; wines from Portugal, Spain, and France. About one-fourth of the exports go to England, and one-fifth to the United States. Brazil takes the lead in commerce.

NATURAL ADVANTAGES.

22. The advantages of agriculture cannot be excelled. The soil and climate are such as to favor the production of almost everything that grows. With but little labor the soil yields the richest returns.

The advantages for coast-wise trade are not so good, owing to the almost unbroken shore line. Some of the harbors are very fine; others are obstructed by sand-bars and shoals.

The climate along the coast in many places is so unhealthy that the cities are built from ten to twenty-five miles from the coast, upon high ground, out of the reach of the miasma. A few people reside on the harbor who are engaged in loading and unloading vessels and in transporting goods to and from the sea-port. Lima is six miles from the coast, Callao is its sea-port; Caracas is twelve miles distant from the sea, and La Guayre is its sea-port.

The advantages for river commerce are the best in the world. More than 20,000 miles of the finest rivers of the globe afford outlets to nearly every part of the continent.

The advantages for manufacturing are good. An abundance of raw material, plenty of water-power in most parts, the excellent commercial facilities, are the chief inducements to manufacturing. The want of coal seems to be the leading hindrance.

INTERNAL IMPROVEMENTS.

23. There are scarcely any public roads. In the countries among the Andes nearly all the merchandise is carried on the backs of mules, or llamas, in narrow paths instead of roads. Travelers are carried from place to place in chairs fastened to the backs of Indians.

Streams are crossed on bridges made of ropes. Steamboat navigation is carried on to but a limited extent. A number of short lines of railway have been built. About 12,000 miles in all have been completed, and a number of other lines are projected.

Agriculture is carried on in a very rude style. In many places grain is threshed by making horses and cattle gallop over it. The anarchy among the governments and general lethargy of the inhabitants are a great hindrance to the spread of useful improvements.

ANIMALS.

24. The most remarkable animals of South America are the tapir, which resembles a hog, with a long, flexible snout which it uses like the trunk of an elephant; the ant-eater, which feeds on ants; the llama, resembling the camel; the jaguar, which is like the African panther; and the condor, a species of vulture, and the largest bird of flight. Besides these there are numerous monkeys, parrots, toucans, alligators, and a great variety of serpents.

The birds are noted for their gaudy plumage. Eighty species of humming-birds are found here from the size of a wren to that of a bumble-bee, and of such delicate colors that they seem like gems as they flit through the sunshine. The domestic animals are raised in large numbers, and in many parts form the chief wealth of the people. The alpaca, a kind of sheep, inhabits the Andes, and is noted for its long, silky wool; a single clipping is generally from ten to twelve pounds.

POLITICAL DIVISIONS.

25. The following are the political divisions of South America.

Countries.	Area. Sq Miles.	Population.	Language.
Columbia	438,000	3,000,000	Spanish.
Venezuela	440,000	2,075,000	Spanish.
Guiana—British	85,400	248,000	English.
Guiana—Dutch	46,000	63,500	Dutch.
Guiana—French.	47,000	36,000	French.
Brazil	3,219,000	11,108,000	Portuguese.
Ecuador	134,000	1,146,000	Spanish.
Peru	505,000	3,050,000	Spanish.
Bolivia	501,000	2,325,000	Spanish.
Chili	207,400	2,420,000	Spanish.
Argentina	1,095,000	2,400,000	Spanish.
Paraguay	92,000	294,000	Spanish.
Uruguay	72,000	438,000	Spanish.
Falkland Islands	4,800	1,400	English.
South Polar Region	52,000		
Total	6,939,000	28,606,000	

INHABITANTS.

26. The greater part of the inhabitants of South America are descendants of the native Indians. Some of these are partially civilized, but large tribes still wander in the savage state.

Those who have submitted to the government are a depressed, gentle, ignorant race, bearing a general aspect of sadness. A few have risen to distinction at the bar, and in other professions; but in general, the oppressive influence of the whites keeps them in a state of poverty and depression, scarcely better than slavery.

In Patagonia the Indians are said to be of a very large size; both men and women are nearly always on horse-back.

Patagonian means large-footed, so named by the earliest navigators; their feet being wrapped in skins appear very large, but in truth they have very small hands and feet. The men average in height nearly six and one-half feet.

The inhabitants of Tierra del Fuego are dwarfish, and seem to be the most miserable of the human race. There are many negroes and mestizoes, especially in Guiana and Brazil. The ruling people are the descendants of Europeans, Spaniards, and Portuguese; they number about one-third of the whole population.

OCCUPATION.

27. Mining is one of the leading pursuits in the mountain regions, yet many of the mines once so famous are no longer worked. In Brazil and Argentina there are large ranches containing many thousand cattle, which are caught by lassoing them. Some farms have from 40,000 to 60,000 head.

In many places agriculture is despised, and people crowd the cities to lead miserable lives in poverty, while all the rich and inviting country roundabout them is left uncultivated.

Manufacturing is carried on to some extent in Brazil and Chili. Here manufacturing and the arts receive considerable encouragement. Commerce is pursued to a very limited extent by the natives.

Nature has done so much for this continent that the great bulk of the population rely almost wholly on the spontaneous production of the soil for its subsistence.

GOVERNMENT.

28. All the governments of South America, except Brazil and Guiana, are republics, but a great deal of confusion exists among them. They can hardly be said to be wholly at peace with one another. The result is a very slow development of the resources of these countries. Some of the presidents are elected for life, and have nearly the same power as a monarch.

Brazil is an empire, a constitutional monarchy. The emperor Don Pedro II. is one of the best sovereigns of the age, and under his reign the country is flourishing and is rapidly rising in development and importance among the nations of the world.

Guiana is divided among the English, the Dutch, and the French. The English possess the western portion, the Dutch the central, and the French the eastern.

EDUCATION.

29. The South American countries are in general very deficient in advantages for education. Brazil has a number of schools, and a laudable effort is being made for the better education of the people. Bolivia and Peru have each several schools of a high order.

But Chili takes the lead in educational matters, as in almost all other matters. Her school system resembles that of the United States. Many public and private schools exist. Two normal schools are supported by the government for the education of teachers.

The northern states, Ecuador, U. S. Columbia, and Venezuela, have a few schools of note for the upper classes of society, and, in the cities, limited provisions are made for the education of the youth.

Although the great mass of the inhabitants of South America are very degraded and ignorant, it is a pleasure to say that of late active measures have been taken in nearly all the countries to afford better means of diffusing knowledge, and of raising the standard of intelligence.

RELIGION.

30. As has been shown, the established religion of all the countries except British and Dutch Guiana is Roman Catholic, but all other creeds are tolerated. Among the Indians and half-breeds, in some places, the religion is much corrupted by the intermixture of Pagan

rites and superstitions. The people in general are not noted for their morality and christianity.

CITIES.

31. *Rio Janeiro*, the largest and most important city of South America, on one of the noblest harbors in the world, is beautifully situated on a bay of its own name.

Its harbor is seventeen miles long and eleven miles in extreme width, with an entrance of one and one-half miles wide. It contains many churches and other public buildings of note.

Bahia is situated on the eastern coast of Brazil, on one of the finest bays in South America. It contains more churches, convents, and monasteries than any other city of the empire.

Bucnos Ayres is the chief city, and capital of Argentina, on the La Plata river. The museum at this place contains the finest collection in the world of fossil animals. Its harbor is very defective.

Large vessels drawing twelve feet of water cannot come nearer than five or six miles. Freight and passengers must be carried to and from the harbor in flat boats.

The city is regularly laid out with wide streets. Nearly all the houses are made of brick and painted white; nearly every house has a garden attached, and many have balconies with lattice work containing shrubs and flowers.

Montevideo is situated on a fine bay on the same river. It has extensive commerce, exporting hides, beef, feathers, Chilian copper, and Paraguay tea.

Caracas, in the northern part of Venezuela, twelve miles from the sea, has a pleasant and healthy climate, but has several times suffered from earthquakes. In 1812 it was almost entirely destroyed, and 12,000 of its inhabitants perished.

Lima, the capital of Peru, is one of the most enterprising cities of South America.

It contains manufactories of gold lace, fringes, glass, chocolate, paper, etc., a fine library of 20,000 volumes, a museum, and a number of educational institutions. Lima is the handsomest city of South America. It was founded by Francisco Pizarro on January 6, 1535, and here he was assassinated in 1541. Its university, founded in 1551, is one of the oldest in America, that of Mexico City having been founded in the same year. Lima has been called the "City of Earthquakes," it having been nearly destroyed five or six times.

Bogota, the capital of U. S. Columbia, is situated on a lofty plateau, 8,000 feet above the sea-level. It is surrounded by lofty mountains, and enjoys a climate which is perpetual spring.

Owing to its isolated situation it has little commerce. The houses are very low and strongly built. In nearly all the large cities of South America there are street railways, but here not a vehicle is to be seen, and the merchandise is transported on mules. It manufactures soap, cloth, and leather.

Quito, the capital of Ecuador, has repeatedly suffered from earthquakes.

It is situated under the equator, on the side of Mount Pichincha, 9,500 feet above the sea-level, and eleven snow-capped peaks are in sight. It contains some fine squares, and the altar of the Grand Cathedral is regarded as one of the most elaborate and costly in the world.

La Pas, the capital of Bolivia, is nearly 13,000 feet above the sea-level. It is the most important city of its own country.

Santiago, the capital of Chili, is an important place. It is well laid out with fine promenades. The houses are nearly all one story, with thick walls. Earthquakes are common.

Sucre, formerly the capital of Bolivia, is a cleanly city, situated on a lofty table-land, nearly 10,000 feet above the sea-level.

Assumption, the capital of Paraguay, is situated on the left bank of the Paraguay river, nearly 1,000 miles from its mouth.

It is a neat and cleanly city, founded by the Spaniards in 1535, and from its advantageous position in a few years became a city of importance. Hides, tobacco, cedar, and mandioc are the chief articles of trade.

Potosi, in Bolivia, is noted for its rich silver mines, though not so productive as formerly, owing to a want of proper machinery for working the mines.

Pasco, in Peru, nearly 14,000 feet above the sea-level, is the highest city of the globe, and is surrounded by rich silver mines. *Popayan* is the oldest city in South America, founded by Europeans in 1537; population, 11,000.

Cities.	Population.	Cities.	Population
Guayaquil	22,000	Bogota	84,000
Rio Janeiro	357,000	Caracas	73,000
Bahia	40,000	Georgetown	37,000
Sucre	24,000	Paramaribo	22,000
La Paz	76,000	Cayenne	10,000
Potosi	26,000	Quito	80,000
Buenos Ayres	398,000	Lima	100,000
Santiago	200,000	Cuzco	50,000
Montevideo	104,000	Pernambuco	130,000
Assumption	30,000	Valparaiso	98,000
Maracaybo	22,000		

HISTORY.

South America was discovered by Christopher Columbus in his third voyage to America in 1498. He landed at the mouth of the Orinoco river.

The following year some Spanish explorers visited the northern shores, among whom was one named Amerigo Vespucci (A-ma-re-go Ves-poot-she), who published an account of the voyage in 1500, and his name was given to the whole country. It was not known at the time that America was a continent, until in 1513 Balboa, a Spaniard, crossed the Isthmus of Darien and first saw the Pacific Ocean. The waters were called Pacific from their tranquil character, but it was afterwards found to be subject to violent storms.

In 1520 Magellan passed through the strait which bears his name and visited some of the Pacific shores. His fleet was the first to circumnavigate the globe.

Nearly the whole of South America for three centuries was divided between Spain and Portugal. The Spaniards, on the discovery of South America, found

it in the possession of various tribes of Indians, generally of a more gentle and less warlike disposition than those who inhabited North America. They were evidently of the same race, but they were influenced by the softer climate, and their vigor and courage had become subdued. With the cross in one hand and the sword in the other, the ruthless invaders took possession of the land. Peru, a populous empire of partly civilized people was conquered by Pizarro in 1535, by a series of treacherous though intrepid acts, scarcely paralleled in the history of mankind.

The whole peninsula of South America fell into the power of European government. Spain took possession of the greater part, and Portugal of a large tract on the east. For three centuries the country remained in the possession of these two powers, with the exception of Guiana. Finally the colonies, taking advantage of the disturbed condition of the mother country, obtained their independence between the years 1819 and 1829. War and internal dissensions have retarded their growth, but a marked change is taking place for the better.

CHAPTER XVI.

BRAZIL.

MAP EXERCISES.

Locate the following :

CAPES.

Orange, St. Roque, St. Thome, Frio.

GULFS AND BAYS.

All Saints, Formosa.

ISLANDS.

Marajo, St Catherine, Bananal.

MOUNTAIN RANGES.

Organ, Sierra De Mar, Sra de Espinhaco, Sra Mantiqueira, Geral, Pireneos, Acarai, Parime.

MOUNTAIN PEAKS.

Itatiaya, Itacalumi, Itambe.

RIVERS.

Amazon, Para, Tocantins, Xingu, Tapajos, Madeira, Purus, Japura, Rio Negro, Branco, Paranahyba, San Francisco, Parana, Paraguay, Uruguay, Guapore.

CITIES.

Rio Janeiro, Bahia, Pernambuco, Maranh, Miranda, Villa Bella, Para, Natal, Santarem, Obidos, Diamantina.

RELATIVE POSITION.

In what direction is Rio Janeiro from Para? from Obidos? Diamantina? Bahia? New York?

TRAVELS.

Trace a water route from Rio Janeiro to Santarem; to Buenos Ayres; Vera Cruz; Cincinnati.

MISCELLANEOUS.

What is the difference of time between Rio Janeiro and New York? In what direction would your shadow fall to-day at Bahia? State the latitude and longitude of the three largest cities of Brazil. What isotherms cross Brazil? What is the difference of time between the extreme eastern and western points of Brazil? By the scale of miles what is the distance from Para to Bahia? to Montevideo? to the boundary of Bolivia? How many parallels cross Brazil? How many meridians? What is the length of the longest day at the tropic of Capricorn? What time is it at Bahia when it is two o'clock A. M. at Moscow.

DESCRIPTION.

POSITION.

1. Brazil embraces the largest contiguous area of any country in the world, except Russia. It is bounded on the east and south by the Atlantic ocean, and on the other sides by every country of South America, Chili being excepted.

LATITUDE AND LONGITUDE.

2. It extends in latitude from $4^{\circ} 30$ min. north, to 33° south, and in longitude from 35° to 73° west.

EXTENT.

3. Brazil occupies nearly one-half of South America. Its greatest length is 2,600 miles; greatest breadth 2,470. Area, 3,140,000 square miles.

COAST.

4. The coast line of Brazil measures nearly 3,800 miles; it is not deeply indented by gulfs and bays, but is very irregular. Many of its harbors rank among the finest in the world. In many places it is low and sandy, but in other places considerably elevated.

ISLANDS.

5. The only island of importance is *Marajo*, noted for its productions of rice and cattle. A few smaller islands exist along the coast.

SURFACE.

6. The eastern and south-eastern parts are hilly and mountainous. The most easterly range is the *Sierra de Mar* or *Brazilian Andes*, noted for its very picturesque scenery. The highest peak is 4,160 feet. Further west lies the *Sra de Espinhaco*. Its loftiest is Itacolumi, 6,175 feet high. The *Organ* mountains, also in the south-east, take their name from the fancied resemblance to the tubes of a pipe organ. The *Geral* are on the west. Many ranges as shown on the map are mere flat water-sheds.

PLAINS.

7. The interior consists of extensive plains, the most remarkable of which is the *Selvas of the Amazon*. It is covered with a luxuriant and gigantic vegetation, to which the hot and humid climate gives an astonishing vigor.

The immense and impenetrable forests and mighty streams of this great plain swarm with animal life in all its forms. Ferocious beasts of prey, huge serpents, alligators, troops of monkeys, flocks of gaudy-colored and loquacious birds, and clouds of insects, are here yet undisturbed by the arts of man. The country is characterized by frequent thunder-storms and torrents of rain, which occur in the morning after cloudless nights.

OBJECTS OF INTEREST.

8. Though this country does not abound in lofty water-falls, gigantic caves, and magnificent mountain scenery, as some of the other parts of the world, yet it is not lacking in objects of interest. To the stranger the mammoth forests, the remarkable vegetation, the profuse and beautiful flowers and birds, the mighty Amazon, are sources of ceaseless wonder. In the valley of the upper San Francisco are vast limestone caverns, containing many bones of extinct animals, such as the megatherium and mastodon. The mountains of the south-east contain the finest scenery of Brazil, and are much celebrated.

RIVERS.

9. The mightiest river on the globe, the *Amazon*, drains the greater portion of Brazil.

A river of such prodigious size that near its mouth you may sail on it and be out of sight of land, and a thousand miles above the mouth, when on the middle of the stream the trees on the banks are just on the edges of the horizon.

The principal tributaries on the north are the *Rio Negro*, *Japura*, and *Putumayo*. On the south are the *Tocantins*, *Tapajos*, *Xingu*, *Madeira*, *Purus*, and *Jurua*, which in themselves rank with the largest rivers of the world. The *San Francisco* and the *Paranahyba* empty into the Atlantic, and are valuable for their commercial importance.

The learner will observe that Brazil is one of the finest watered portions of the globe.

LAKES.

10. There are many small lakes in the south, the largest of which are *Patos* and *Mirim*, along the coast. They are really branches of the Atlantic. The former is 140 miles long and forty wide; the latter, 100 miles long and thirty wide.

SOIL.

11. In the west, near the Great Mountains, are the Campos Parexis, forming a sandy and barren desert. The larger part of the rest of Brazil is fertile. Along the rivers are some of the richest lands in the world.

CLIMATE.

12. In the northern parts, and in the valley of the Amazon, the climate is hot and moist, but the heat is tempered by the great expanse of forests, and by the trade winds. Towards the south it is temperate and healthy, and throughout the whole country the climate may be described as highly agreeable and genial. In the valley of the Amazon the rainy season begins in December and lasts six months. The rains fall every afternoon, accompanied by terrific thunder and lightning. The temperature varies but little here during the year, the average being eighty degrees.

VEGETATION.

13. Enjoying a favorable climate and a fertile soil, this country produces a great variety and abundance of plants. The forests yield valuable woods for dyeing and building. All kinds of tropical produce, sugar, coffee, cotton, etc., are found in the warmer regions, while other districts abound in the cereal grains, and fruits of the temperate zones. Of coffee it furnishes three-fourths of all used in the world. Some of the plantations contain more than 1,000,000 trees.

The milk-tree, caoutchouc, or India rubber tree, manioc, mate, logwood, mahogany, ipecac, sassafras, and numerous useful woods are among the products. Besides there are many varieties of fruit, both tropical and those peculiar to the temperate zones.

MINERALS.

14. Gold is obtained both from the mines and from the washings in various places.

Iron abounds in nearly all the provinces, and copper and salt are common.

Brazil supplies nearly all the diamonds of commerce.

Other minerals are emeralds, rubies, topazes, silver, lead, coal, mercury, and sulphur.

MANUFACTURES.

15. The manufactures are not extensive. However, recently there is quite a movement in this direction, and there are already many facto-

ries and foundries. The chief articles are hats, rum, cotton goods, soap, machinery, engines, farming implements, jewelry, and leather.

COMMERCE.

16. Brazilian commerce is flourishing; there are many lines of steamships enjoying a liberal subsidy from the state.

The exports, coffee, hides, sugar, tobacco, cotton, diamonds, dye-woods, etc., in 1880 aggregated over \$102,000,000; the imports \$82,000,000; these were cottons, woolens, linens, jute, steam engines, rails, machinery, hardware, cutlery, etc. The trade with the United States is large.

INTERNAL IMPROVEMENTS.

17. The roads of Brazil are wretched, but there are twenty lines of railroad, aggregating 3,600 miles, extended by public and private means.

In 1874 a submarine cable was completed to Europe.

Bridges are hardly known.

But under the present wise administration there is great encouragement toward internal improvements of all kinds.

ANIMALS.

18. The wild animals comprise the jaguar, puma, and other cat species, the tapir, peccary, alligators, poisonous and monstrous serpents, troops of monkeys, parrots, macaws, toucans, curassous, humming-birds, etc. The plains abound in wild cattle.

The insect world of Brazil is represented by myriads of large and gorgeously colored butterflies, gigantic beetles, musical crickets, immense spiders, formidable mosquitoes, huge scorpions, an endless variety of bees, some without stings, and others making sour honey, besides countless other tormenting pests.

About 2,000 species of fish are found in the Amazon river.

INHABITANTS.

19. A large portion of the country has never been fully explored, and is occupied by savage tribes of independent Indians, and are warlike, ferocious, and of the most revengeful character.

The negroes, who form a large part of the population, were originally imported from Africa, and are being emancipated from slavery. In 1871 a law was enacted that every child born of slave parents after that date should be free.

The whites number one-third of the whole population; there are besides many of the mixed races. In many places large German settlements, as well as those of other nationalities, have been made.

The Brazilians are hospitable, cheerful, good-humored, and intelligent, and we are glad to say that their social condition is fast improving. The whole population is 10,108,000.

OCCUPATION.

20. Agriculture is the chief employment. The raising of cattle, horses, and mules, upon the great plains, is the chief object of the farmer there. Some of the farms contain from 40,000 to 60,000 head of cattle.

Commerce and mining furnishes employment to many. Of late considerable attention is being paid to manufacturing.

LANGUAGE.

21. The civilized portion of the population generally speak the Portuguese language; but many Germans, Italians, etc., have settled in various places, who speak their native tongues.

GOVERNMENT.

22. Brazil is a limited monarchy. Don Pedro II. is emperor.

"The executive power is vested in the emperor, and his ministers and secretaries of state. The empire is divided into twenty provinces, comprising 642 municipalities, each having a council chosen directly by citizens possessed of an annual income of \$112."

The legislative power is vested in a senate of fifty-eight members, elected for life, and a chamber of deputies, 112 members, chosen for four years.

A property qualification is necessary to a right of suffrage.

EDUCATION.

23. Free public schools are supported by the state, and in some of the provinces education is compulsory.

About 500 newspapers are published. However, there is still much ignorance among the people.

RELIGION.

24. The Roman Catholic religion is established by law; all other creeds are tolerated, but must be practiced in private.

Dissenters enjoy all the civil rights, except an election to the general assembly.

CHIEF CITIES.

25. *Rio Janeiro* and *Bahia* have already been described.

Pernambuco, or Recife ("reef"), is situated on the Atlantic coast. The harbor is protected by a reef of rocks, and the port is defended by four forts. The city contains a fine iron bridge. The name is made up of two Indian words, meaning "open sea." It was founded by the Portuguese in 1530.

Maranhão, on the north-eastern coast is well laid out with paved streets. The harbor is fine and the commerce considerable.

Para, another seaport of Brazil, on the Para river, seventy miles from the Atlantic. It contains a number of public buildings. Its trade, which is important, is carried on with Great Britain and the United States.

The following is a list of the principal towns of Brazil, together with their population:

Name.	Population.	Name.	Population.
Rio Janeiro.	357,000	Maranhã	32,000
Bahia	140,000	Obidos	2,000
Pernambuco	130,000	Santarem	1,500
Para	35,000	Diamantina	10,000

HISTORY.

26. Pinzon, one of the companions of Columbus, first saw the coast of Brazil, north of the Amazon, in 1499; but the chief discovery was made by the Portuguese, under Cabral, who, while on a voyage to the East Indies, accidentally came in sight of the southern coast, May 3, 1500. No gold was at first discovered here, and the most valuable exports consisted of dye-wood, from which the name of Brazil was given to the country.

In 1690 mines of gold were discovered, and diamonds shortly after. These discoveries raised the country to the level of the richest Spanish possessions in America, and made it the most important source of revenue to the crown of Portugal. When the French invaded Portugal in 1807, the royal family escaped to Brazil, where they continued to dwell after the expulsion of the invaders.

On the overthrow of Napoleon, Brazil was raised from the rank of colony to that of a kingdom. The inhabitants of Portugal testified their discontent at this change, and compelled the king to return to Lisbon in 1821, leaving his son, Don Pedro, as regent of Brazil. The Brazilians were now resolved to throw off all connection with the mother country. Accordingly, on the 12th of October, 1822, they declared themselves independent, and conferred the crown on Don Pedro, with the title of Emperor of Brazil.

The king finding resistance unavailing formally resigned his claim to the government of Brazil in 1835. Under this government the country has generally been tranquil and prosperous.

CHAPTER XVII.

EUROPE.

MAP EXERCISES.

Locate the following:

ISLANDS.

Nova Zembla, Loffoden Isles, Zealand, Oeland, Gothland, Aland, Channel Isles, Balearic Isles, Majorca, Minorca, Corsica, Sardinia, Sicily, Corfu, Candia, Great Britain, Ireland, Shetland Isles, Orkney Isles, Hebrides Isles, Cyprus.

CAPES.

Kanin, North, The Naze, Ortegal, Finisterre, St. Vincent, Matapan, Land's End, Wrath, Clear, Creux, de Gata.

PENINSULAS.

Norway and Sweden or Scandinavia, Jutland, Iberia, Italy, Morea, Crimea, Kanin, Kola.

MOUNTAIN RANGES.

Sra Guadarama, Bohemian Forest, Kiolen, Valdai Hills, Ural, Caucasus, Carpathian, Balkan, Pindus, Alps, Sudetic, Apennine, Cevennes, Pyrenees, Sierra Nevada.

MOUNTAIN PEAKS.

Olympus, Blanc, Cenis, Etna, Stromboli, Vesuvius, Sulitelma, Kilhorn.

GULFS, BAYS, AND SEAS.

Waranger, Hardanger, Sogne Fjord, Tcheskaya, White, Bothnia, Finland, Baltic, Riga, North, Zuyder Sea, Biscay, Lyons, Genoa, Tarranto, Adriatic, Archipelago, Marmora, Black, Azof, Caspian, Mediterranean, Irish.

STRAITS AND CHANNELS.

Skager Rack, Cattegat, Gibraltar, Dardanelles, Bosphorus, Dover, English, St. George's, Bristol, North, Kertch.

LAKES.

Wener, Wetter, Onega, Lagoda, Maelar, Como, Peipus, Ilmen.

RIVERS.

Onega, Dwina, Petchora, Ural, Volga, Don, Dneiper, Dneister, Danube, Pruth, Drave, Save, Po, Rhone, Seine, Loire, Gironde, Ebro, Guadalquivir, Tagus, Rhine, Weser, Elbe, Oder, Vistula, Niemen, Thames, Guadalaviar, Guadiana.

CITIES AND TOWNS.

Christiania, Bergen, Hammerfest, Stockholm, Gottenburg, Copenhagen, Madrid, Gibraltar, Barcelona, Lisbon, Oporto, St. Petersburg, Moscow, Odessa, Sebastopol, The Hague, Amsterdam, Brussels, Antwerp, Ghent, Paris, Calais, Havre, Marseilles, Lyons, Bordeaux, Bremen, Hamburg, Berlin, Konigsberg, Dantzic, Cologne, Hanover, Frankfort-on-the-Main, Munich, Berne, Geneva, Vienna, Prague, Buda Pesth, Rome, Milan, Genoa, Naples, Venice, Constantinople, Adriano-

ple, Bucharest, Salonica, Athens, Corinth, London, Birmingham, Liverpool, Edinburg, Glasgow, Dublin, Belgrade, Trieste, Niznei Novgorod.

MINOR DIVISIONS.

Andora, Bulgaria, Slavonia, Dalmatia, Montenegro, Servia, Bosnia, Roumania, Wallachia, Rumelia, Albania, Transylvania, Hungary, Bohemia, Moravia, San Marino, Republic, Poland, Pommerania, Holstein, Sleswick, Hanover, Bavaria, Saxony, Silesia, Wurtemberg, Baden, Alsace, Prussia.

RELATIVE POSITION.

In what direction is London from Rome? from Paris? Berlin? Lisbon? St. Petersburg? In what direction is Berlin from Rome? from Moscow? Astrachan? Constantinople? Liverpool? Vienna? The Hague? Copenhagen? In what direction is the North sea from the Baltic sea? from the Marmora? the Gulf of Lyons? Gulf of Riga? Bay of Biscay?

TRAVELS.

What countries would you cross in traveling by land from Portugal to Greece? to Denmark? to Russia? to Sebastopol? to Norway? from Norway to Turkey? to Italy? to Belgium? Trace a water route from London to Copenhagen; to St. Petersburg; to Dublin; to Lisbon; to Marseilles; to Rome; to Athens; to Trieste; to Constantinople; to Sebastopol. A water route from Bremen to Liverpool; to Stockholm; to Lyons; to Venice; to Calcutta; to Sydney; to Yeddo; to New York; to Quebec.

MISCELLANEOUS.

What capitals of Europe have nearly the same latitude as Columbus, Ohio? What cities are on or near the 60° north latitude? to 52° ? What countries are crossed by these same parallels? What countries are crossed by the prime meridian? 10° east? 20° east? Give the latitude of each of the capitals of Europe. Give the longitude of the same. What is the difference of time between London and Paris? Berlin? St. Petersburg? Washington? What time of day is it in Paris when it is 1 o'clock A. M. in San Francisco? What is the length of the longest day at St. Petersburg? at Rome? at Paris? Where did the sun set to-day when it rose at London? Where, when it was noon at London? When it is 3 o'clock A. M. Wednesday in St. Petersburg, what is the time in Columbus, Ohio? When it is 7 P. M. Saturday at St. Louis, what is the time in Berlin?

DESCRIPTION.

GENERAL STATEMENT.

1. Europe, the least but one of the six grand divisions of the globe, surpasses all the others in wealth, intelligence, and general civilization.

LOCATION.

2. (1) Europe is bounded on the north by the Arctic ocean, on the east by Asia, on the South by Asia and the Mediterranean sea, and on the west by the Atlantic.

(2) It lies between the parallels 36° and 71° north, and 10° west longitude, and 65° east longitude.

EXTENT.

3. Its greatest length is 3,400 miles, and greatest breadth 2,400 miles. Area, 3,825,000 square miles.

Distance from	Miles.	Distance from	Miles.
Paris to London	225	Amsterdam to London . . .	240
Vienna " "	600	Copenhagen " " . . .	600
Rome " "	800	St. Petersburg " " . . .	1,140
Madrid " "	700	New York " " . . .	3,500
Athens " "	1,500	Dublin " " . . .	300
Constantinople "	1,700	Iceland " " . . .	1,050
Berne to "	650		

Let the pupil find, by the scale of miles, the distance between the following places:

Rome to Madrid.
Rome to Paris.

Rome to Berlin.
Rome to Moscow.

Rome to North Cape.
Rome to Astrachan.

GENERAL OUTLINE OF THE COAST.

4. The main body of land viewed on the map has nearly the form of a right-angled triangle. Europe is so much indented by large bodies of water that few parts are more than 300 miles from the sea. The shore line measures more than 20,000 miles, or one mile of coast to every 189 square miles of surface. Including inlets, there are about 55,000 miles of coast line.

Within the English Channel, at St. Malo on the coast of France, the tide rises to a height of fifty feet, next to Fundy the highest known.

CAPES.

5. The most northerly extremity is *North Cape*.

Cape Skagen or *Skag*, the northern extremity of Jutland, gives name to the Skager Rack. *Matapan* projects from the southern part of Greece into the Mediterranean; it is the southernmost point in Europe. *Land's End*, *Cape Clear*, with *Duncansby Head*, are the most noted capes of the British Isles. Other important capes on the continent are *St Vincent*, *Ortelgal*, *Finisterre*, *Spartivento*, *The Naze*, etc.

GULFS AND BAYS.

6. Among the most important gulfs and bays of Europe are the *Gulf of Bothnia*, the northern projection of the Baltic sea, the *Bay of*

Biscay, the Gulf of Lyons, Bay of Naples, etc. The Gulf of Bothnia is 400 miles long, with an average width of 100 miles.

SEAS.

7. The *Mediterranean* is the largest inland sea, being 2,000 miles long, 200 to 800 miles wide, with an area of 1,000,000 square miles.

At the Strait of Gibraltar a strong central current brings the waters of the Atlantic into it, while two lateral currents pour them back into the sea. The evaporation of the Mediterranean exceeds the amount which the rivers bring into it; hence it is kept full by a stream from the Atlantic, while its waters are about three times as salt as those of the latter.

The *Adriatic*, an arm of the Mediterranean, lies between Italy on the west and Turkey and Austria on the east. The western shores are low and marshy, while the eastern are high and rocky. Navigation is safe during the summer, but during the winter dangerous on account of the south-easterly winds; it is 500 miles long and 100 wide; area, 50,000 square miles.

Seas.	Length. Miles.	Breadth. Miles.	Area. Sq. Miles.	Remarks.
Black	700	380	168,000	Drainage area is 640,000 square miles. It is about one-half as salt as the ocean. Receives one-third of the running water of Europe, and is subject to great storms.
Marmora (Marble)	60	50	4,500	It derived its name from a small island toward its western extremity, celebrated for its marble quarries.
Azof	200	80	14,000	Perhaps the most noted sea in the world in abundance of fish. North coast bold and craggy; east coast very low.
Archipelago . . .	400	200	60,000	It contains numerous islands, some of which have valuable marble.
North	700	420	180,000	Average depth 186 feet.
Baltic	900	180	205,000	It drains more than one-fifth of Europe, or 900,000 square miles.
Irish	150	125	10,000	The scene of an active trade.
Zuyder	45	35	1,200	Its waters are now being pumped into the sea.
White	380	30 to 150	45,000	Deep and navigable for large vessels. At the mouth of the Dwina there are large sand-banks.

CHANNELS, STRAITS, ETC.

8. The *Strait of Dover* separates England from France, and connects the North sea to the English channel. (The pupil should be required to locate other straits, etc., in the same way.)

Straits, etc.	Length. Miles.	Width. Miles.
Dover		21
Skager Rack	150	90
Cattegat	100	40
English	300	20 to 150
Gibraltar		15
Bosphorus	17	$\frac{1}{2}$ to $1\frac{1}{4}$
Dardanelles	40	1 to 4
Enikale, or Kertch	20	8 to 10
Bonifacio		7
Otranto	80	60
Messina	20	2 to 10

ISLANDS.

9. The surface of the islands contains about one-fourteenth of the whole of Europe—256,000 square miles. Among the islands are the groups of *Nova Zembla* and *Spitzbergen*, in the Arctic ocean, both claimed by Russia.

They are cold, barren, and desolate, entirely uninhabited, except there is a small Russian hunting post on the latter. They are visited in summer for the purpose of taking whales, walrus, and seals, which abound along the coast. Subterranean labyrinths of great antiquity have been discovered in Nova Zembla.

The other principal islands are noticed in the following table :

Islands.	Length. Miles.	Breadth. Miles.	Area. Sq. Miles.	Population.
Great Britain	608	300	88,000	29,141,000
Ireland	300	170	33,000	5,364,000
Sicily	185	120	10,000	2,584,000
Sardinia	152	66	9,200	575,000
Corsica	110	53	3,360	263,000
Candia, or Crete	150	5 to 35	4,300	200,000
Cyprus	148	49	3,707	130,000
Euboea	115	33	1,400	85,000
Zealand	81	66	2,800	637,000
Gothland			1,277	55,000
Malta	17	9	143	32,000

PENINSULAS.

10. Europe is much indented by arms of the sea, which form numerous peninsulas.

The *Scandinavian* peninsula, comprising Norway, Sweden, and Lapland, is the largest; the isthmus between the Gulf of Bothnia and the White sea is less than 200 miles across.

The *Peninsula of Jutland* is much smaller. In the south is the *Spanish* or *Iberian* peninsula (consisting of Spain and Portugal), with an isthmus 220 miles across.

The *Balkan* peninsula comprises Turkey and Greece.

Italy and the *Morea*, joined to the continent by the narrow isthmus of Corinth, twenty miles long, and four to eight miles wide, and the *Crimea*, extending into the Black sea, are the prominent peninsulas; the latter is joined to Russia by the isthmus of Perekop, twenty miles long and four wide.

GENERAL CHARACTERISTICS OF THE SURFACE.

11. Eastern Europe, from the Arctic ocean to the Caspian and Black seas, is a low plain, the Valdai Hills, the highest part, being not more than 1,100 feet above the sea-level. The northern part of Germany along the Baltic is low and marshy, nearly one and one-half million acres being unfit for cultivation. The eastern part of Austria is flat, and so is Holland; much of the surface of the latter is below the sea-level, and dikes are built to keep out the waters of the sea.

During the year 1282 the dikes gave way, seventy-two villages were submerged, 100,000 people drowned, and the area of the Zuyder sea much increased.

The rest of Europe is in general high and hilly or mountainous. The central part of Spain consists of an elevated plateau, on an average 2,300 feet high. The plateau of Auvergne is in southern France.

MOUNTAIN RANGES.

12. Four great systems of mountains spread their numerous branches over this continent.

The *Pyrenées* separate France and Spain, and extend in several parallel chains through the peninsula.

The *Alps* are the principal trunk of the second great European system of mountains, whose branches spread into France, Germany, Italy, Hungary, Turkey, and Greece. The *Vosges*, the *Jura*, and the *Cevennes* in France are its western spurs. The highest mountains are in Switzerland.

A third mountainous system is the *Carpathian*, which nearly surrounds Hungary, and extends along the frontiers of Moldavia, sending off several low ranges into Germany.

The fourth system of mountains is the *Scandinavian*, which traverses

the peninsula of Norway and Sweden, and nowhere exceeds an elevation of 8,500 feet. The following are the principal elevations:

Alps	8,500 feet.	Balkan	10,000 feet.
Pyrenees	11,000 "	Pindus	7,750 "
Apennines	11,500 "	Carpathian	10,000 "
Jura	5,500 "	Cantabrian	10,000 "

MOUNTAIN PEAKS.

13. The following are the principal peaks, with their height:

Name.	Height. Feet.	Remarks.
Elburus	17,770	the highest of the Caucasus Mountains.
Mount Blanc	15,670	" " " " Alps "
Mulahacen	11,670	" " " " Sierra Nevada "
Maledetta	11,468	" " " " Pyrenees "
Carno	10,150	" " " " Apennines "
Scardus	10,000	" " " " Balkan "
Ruska Poyana	9,910	" " " " Carpathian "
Skagostolstind	8,070	" " " " Kiolen "
Pernassus	8,000	Greece.
Sneehatten	8,560	Norway.
Ætna	10,768	Sicily, Active Volcano.
Vesuvius	8,480	Italy, " "
Cenis	11,700	

Stromboli, 2,500 feet high, is a volcano constantly in a state of eruption. Its fires can be seen at a great distance at sea, and is for this reason called the "Light-house of the Mediterranean."

NATURAL CURIOSITIES.

14. There are numerous caverns, water-falls, mineral springs, glaciers, and other objects of interest in different parts of Europe.

The scenery of Switzerland is among the finest in the world.

The lakes and mountain scenery of northern Italy are particularly fascinating.

The Rhine abounds in objects and places of romantic beauty.

The mountains and glens of Spain are much admired for their wildness and sublimity.

The numerous cataracts, lakes, rugged mountains of the Scandinavian peninsula make it an interesting country to tourists.

Kilhorn peak, situated in the northern part of Norway, has a large perforation at about three-fourths of its height, through which the sun shines twice each day during the summer, once at noon and then again at midnight; the effect is extraordinary.

THE GROTTO OF ANTIPAROS.

Antiparos, one of the Cyclades, is celebrated for its grotto so beautifully described by Goldsmith. It consists of a cavern 360 feet long, 340 feet wide, and 180 feet high. The roof is an immense arch, which, with the sides, is covered with stalactites and dazzling crystalizations, assuming the shape of columns, screens, flowers, trees, etc. The stalactites hanging from the roof unite in several places with stalagmites rising from the floor, so that the arch is apparently supported by a continuous series of pillars.

LAKES.

15. The lakes of Europe cover an area of 85,000 square miles; that is about two per cent. of its surface, and they contain 3,000 square miles of islands.

16. There are two great lake regions in Europe; one embracing the lakes of Switzerland, and the other the thousands of lakes of north-western Russia and Sweden. The lakes of the first region are noted for their beauty, being set like gems among the mountains.

The lakes of Norway are noted as being the most transparent in the world. It is said that pebbles may be seen at a depth of 120 feet.

The following is a list of the principal lakes:

Lakes.	Length. Miles.	Breadth. Miles.	Area. Sq. Miles.	Remarks.
Como . . .	35	3	60	Subject to violent storms. Shores lined with beautiful villas.
Maggiore .	40	2	75	300 feet deep; several beautiful villages.
Garda . . .	35	2 to 10	140	951 feet deep; and abounds in fish.
Wener . . .	94	15 to 50	2,120	Receives thirty rivers.
Wetter . . .	80	10	760	Useful in navigation.
Maelar . . .	70	2 to 45	650	Contains 1,300 islands.
Onega . . .	140	30 to 45	3,406	Its waters are beautifully clear.
Ladoga . . .			6,190	Receives sixty rivers.
Zurich . . .	23	½ to 2½	35	Celebrated for its picturesque beauty.
Constance .	40	9	200	Subject to sudden risings from an unknown cause.
Geneva . . .	45	1 to 9½	82	984 feet deep, and is subject to sudden rising from one to four feet, and lasting twenty-five minutes.
Neufchatel.	24	4	96	Scenery less beautiful than the other lakes of Switzerland.
Lucerne . .	24	½ to 2	32	1,389 feet above sea-level, and 300 feet deep.
Peipus . . .	80	32	1,360	Scenery is very picturesque. Fisheries supply St. Petersburg in winter.

RIVERS.

17. The rivers of Europe are important. The rivers of western Europe rise chiefly in the Alps, while those of eastern Europe rise about the Valdai Hills.

The *Volga* is the largest river, but its navigation is interrupted by sand-beaches. It empties into the Caspian sea through seventy mouths, and changes its channel frequently.

The *Danube* rises in the Black Forest mountains of Germany, flows in a general direction south-east, and empties into the Black sea by five principal mouths. It receives one hundred navigable tributaries, and is navigable to Ulm, Bavaria.

The *Po* river, of northern Italy, is a sluggish stream; in its lower course its waters are kept in by *levees*, and the channel has become so elevated that the surface of the river is as high as the tops of the houses.

The *Rhine* contains the noted *Falls of Schaffhausen*, one hundred feet high; it contains other lesser falls, and is remarkable for the number of old castles upon its banks, built during the Feudal ages.

There is a beautiful cataract, 112 feet high, called *Trollhatta*, on the *Gotha*, in south Sweden.

The following are the principal rivers of Europe:

Rivers.	Length. Miles.	Area of Basin. Sq. Miles.	Miles of Navigation, etc.
Volga . .	2,000	560,000	It has seventy mouths, and the navigation is obstructed by sand-bars.
Danube	1,500	315,000	To Ulm of Bavaria. 1,000 square miles of delta.
Po . . .	460	55,000	280. Lower course protected by dikes.
Rhone . .	650	46,000	360. Navigation difficult.
Rhine . .	960	86,000	To the Falls of Schaffhausen.
Seine . .	500	35,000	350. Banks highly picturesque.
Thames .	215	6,160	To London (sixty miles) for large ships.
Elbe . .	740	60,000	To Prague. Navigation difficult.
Oder . .	550	37,000	To Breslau, for barges of fifty tons.
Vistula .	690	75,000	550 to Cracow.
Dwina . .	400	140,000	400. Its whole length.
Duna . .	600	65,000	Navigable nearly throughout.
Don . . .	975	170,000	600, to Zadonsk. Difficult of navigation.
Dnieper .	1,060	242,000	To Smolensk for flat bottom boats.
Ebro . .	480	33,000	Navigation difficult because of rapidity and rocks.
Loire . .	645	53,000	450, to Roanne, for half the year.
Tagus . .	545	40,000	To Abrantes, about 100 miles. An impetuous stream.
Tiber . .	210	6,000	30 to 90; a sluggish and muddy stream.
Shannon.	224	8,000	Navigable nearly throughout.
Petchora.	900	65,000	Its estuary contains numerous islands.

SOIL.

18. The soil of Europe is various, but in general is not fertile. Industrious and skillful cultivation, however, has made it the most pro-

ductive portion of the globe. Many of the numerous river valleys are highly productive. The extreme northern parts are sterile because of the excessive cold. The south-eastern part of Russia is almost a desert.

CLIMATE.

19. In general the climate of southern Europe may be described as mild, and that of the north severe, with long and cold winters, and hot but short summers.

The climate of western Europe is about ten degrees warmer than that of America in the same latitude, caused by the prevailing westerly winds from the Gulf Stream, but for the same reason it is liable to sudden and violent changes.

That of the eastern part of the continent is rendered much colder in corresponding latitudes, by its exposure to the icy winds of northern and central Asia. The Siroccos from the Sahara often do much damage by their scorching heat, but in general are tempered by their great exposure to the sea. The mountains of Switzerland, Spain, and Hungary also modify the character of the climate, by cool breezes over the extensive districts they cover.

ANIMALS.

20. Many of the original animals of Europe have been exterminated. The lion, tiger, ostrich, which doubtless once roamed in the forests, have disappeared. Monkeys are only found on the rocky heights of Gibraltar. The wild bull is still met with in the thick woods of Russia. The mufloon is found in Greece, Sardinia and Corsica; the ibex in Candia and the Alps; the chamois, the hunting of which is followed with ardor, is found in small flocks in the mountains of central Europe; the elk, resembling the moose, inhabits the north; reindeer are numerous, and are domesticated among the Laplanders.

The stag, fallow-deer, roe-buck, wild-boar, lynx, wild-cat, weasel, pole-cat, marten, sable, genet, badger, glutton, brown and black bear, fox, wolf, jackal, hare, rabbit, squirrel, marmot, beaver, hedgehog, otter, and porcupine, are found in different places.

The birds are numerous and of great variety. Eagles, vultures, hawks, and owls are found chiefly in mountainous and woody regions. The lammergeyer is a large species of vulture, frequenting the Alps. The falcon, trained to hunt game, nearly resembles our big-footed hawk. The singing birds are numerous; among them are the nightingale and skylark; grouse, partridges, and quails are abundant.

AGRICULTURAL AND VEGETABLE PRODUCTIONS.

21. Europe, extending from the frigid zone to the verge of the torrid, presents a great variety of vegetable products. Far to the north the vegetation consists only of mosses, with a few willows and other trees which are reduced to shrubs. In the middle of Europe there are

immense forests. Here all the cereal grains flourish, and here, as well as in southern Europe, are the most numerous and prolific vineyards in the world.

In Spain, Italy, and Greece the orange, lemon, fig, and olive reach their perfection. The varieties of the oak, ash, chestnut, walnut, maple, etc., while resembling those of this country, are still of different species.

Russia produces large quantities of wheat, rye, barley, oats, hemp, flax, Indian corn, tobacco, and honey.

Norway and Sweden, wheat, oats, barley, beans, peas, potatoes.

Denmark, the usual grains, and horses.

Holland, cereals, fruits, bulbs and flower roots, cattle.

Southern Europe, oranges, lemons, dates, cotton, grapes, almonds, figs.

Central Europe, grapes, fruits, cereals, sugar-beets, etc.

MINERALS.

22. Europe is less rich in the precious minerals than the other quarters of the globe; but it produces great quantities of coal, iron, lead, tin, copper, salt. Gold, silver, platinum, and diamonds are found in the Ural mountains; silver in Hungary; quicksilver in Spain; iron and copper in the Scandinavian peninsula, Germany, Belgium, Great Britain, etc.

Austria is said to contain every known mineral, save platinum.

Italy and Greece are the richest in marble.

Coal is mined chiefly in England, Belgium, and Germany.

Rock salt in Austria.

Lead is found in nearly all the large mountain ranges.

Tin is found only in England and in the Hartz mountains.

MANUFACTURES.

23. The European nations take the lead in manufacturing. The excellent shipping advantages, the great amount of water power furnished by the numerous rivers, the cheapness of labor, the facilities for obtaining raw material, have given to the European nations advantages and incentives to manufacturing enjoyed by no other nation on the globe. In western Europe, in the more densely populated sections, every stream is lined with factories upon its banks.

The different nations of Europe excel in the manufacture of different articles.

The English excel in the manufacture of hardware, heavy machinery, rail-road iron, cutlery, cotton goods.

The Swedes in iron.

The French in perfumery, silks, wines, and articles of fashion.

The Germans in heavy iron ware, munitions of war, steel.

The Dutch in butter, cheese, and flower culture.

The Russians in sail-cloth, soap, candles, glass, paper, ropes, etc.

The Italians in gauze, porcelain, parchment, artificial flowers, and musical instruments.

On account of a want of water power, the people of Holland have taken advantage of the prevalence of the high winds, and the whole country is made to bristle with wind-mills.

COMMERCE.

24. The total annual value of the commerce of Europe is \$4,604,000,000 imports, and \$3,797,000,000 exports, distributed as follows:

Countries.	Imports.	Exports.	Exports to United States.	Imports From United States.
Great Britain	1,805,000,000	1,220,000,000	194,000,000	381,000,000
France	689,000,000	726,000,000	52,000,000	51,000,000
Germany	454,000,000	425,000,000	44,000,000	67,000,000
Russia	414,000,000	311,000,000	1,250,000	10,333,000
Austria	294,000,000	216,000,000	500,000	1,750,000
Belgium	246,000,000	203,000,000	5,750,000	21,000,000
Italy	252,000,000	249,000,000	8,500,000	8,500,000
Spain	89,000,000	68,000,000	4,500,000	11,500,000
Holland	82,000,000	69,000,000	2,500,000	11,400,000
Switzerland	82,000,000	78,000,000		
Turkey	59,000,000	26,000,000	750,000	2,500,000
Sweden	45,000,000	43,000,000	2,000,000	2,333,000
Norway	27,000,000	21,000,000		
Portugal	27,000,000	21,000,000		
Denmark	22,000,000	11,000,000	500,000	1,750,000
Greece	17,000,000	10,000,000	200,000	2,500,000
				333,000

The exports are chiefly manufactured articles while the imports are mainly raw material and provisions.

NATURAL ADVANTAGES.

25. (The pupil should be required to give the natural advantages for agriculture, manufactures, and commerce.)

INTERNAL IMPROVEMENTS.

26. Canals are numerous in Great Britain, France, and Holland. There are also some in other countries. Railroads and the magnetic telegraph now connect all important places.

A most remarkable feature of Europe is the high state of improvement of the country, the excellence of its roads, the numerous villages and cities, the number and elegance of its public buildings, the fine and durable bridges.

In 1885 there were 124,000 miles of railroad, and 275,000 miles of telegraph line.

INHABITANTS.

27. The inhabitants belong chiefly to the Aryan branch of the human race. There are about five millions of Jews scattered throughout Europe, and about sixteen millions Mongolians; the latter are found in Turkey, Hungary, and Lapland. The Aryans are divided as follows:

Into Germanic, including the Germans, Danes, Norwegians, Swedes, English, Swiss and Dutch; the Romanic, including the French, Spanish, Portuguese, Italians and Greeks; Slavonic, including the Russians and the Poles; Celtic, including the Irish, Welsh, and Highland Scotch.

POPULATION.

28. The following table will show the number of inhabitants according to the latest authorities.

Countries.	Number of Inhabitants.	Population. Sq. Mile.	Standing Army.	War Ships.	Navy Guns.	National Debt.	Area. Sq. Miles.
Great Britain	35,038,000	296	288,000	570	3,600	\$3,925,000,000	121,500
France . . .	37,147,000	182	502,664	258		3,762,000,000	205,000
Germany . .	45,500,000	218	327,274	86	656	825,000,000	209,000
Austria . . .	38,000,000	158	292,000	51	473	1,736,000,000	241,500
Russia . . .	74,500,000	38	839,075	389	386	1,874,000,000	2,129,000
Spain . . .	16,043,000	84	90,000	121	525	1,300,000,000	193,000
Portugal . .	4,613,000	138	30,000	41	178	330,000,000	34,500
Italy . . .	28,210,000	253	737,565	73	478	1,255,000,000	111,500
Switzerland .	2,868,000	114	120,000				16,000
Belgium . . .	5,537,000	487	40,000	4	34	180,000,000	11,400
Holland . . .	4,037,000	318	63,525	124	500	400,000,000	12,700
Denmark . . .	2,053,000	130	35,659	35	291	70,000,000	15,000
Norway . . .	1,879,000	15	12,000	122	293	24,000,000	123,000
Sweden . . .	4,579,000	27	183,068	137	373	55,000,000	171,000
Turkey . . .	8,897,000	84	150,000	168		1,075,000,000	130,000
Greece . . .	1,680,000	87	24,300	34	128	50,000,000	20,000
Roumania . .	5,376,000	100					51,000
Servia . . .	1,682,000	89					19,000
Montenegro .	300,000	82					3,600
Andora . . .	18,000	94					175
San Marino .	8,000	333					24
Manaco . . .	7,000	1,167					6
Luxemburg . .	205,000	205					1,000
Lichtenstein .	9,000	132					68
Total . . .	318,434,000						3,860,000

OCCUPATION.

29. Agriculture, manufactures, commerce, mining, and fisheries are carried on with the greatest activity, skill, and success. Nowhere in the world is agriculture carried on with so much zeal and perfection as in western Europe; except in England and Belgium the majority are engaged in it. To an American it is surprising to see the number of women employed in the fields. Farms in general are small, and are cultivated with all the skill of gardening.

LANGUAGE.

30. A great variety of languages are spoken in England. The following table will exhibit the language, government, and religion of the principal countries.

	Language.	Government.	Religion.	Per cent. of Illiteracy.	
Great Britain . . .	English	{ Kingdom, monarchy	Protestant	33	States of first rank.
France	French	Republic	Catholic	33	
Germany	German	Empire	Protestant	12	
Austria	{ twenty different languages, principally German	Empire	Catholic	49	States of second rank.
Russia	Russian	Despotism	Greek	91	
Italy	Italian	Kingdom	Catholic		
Spain	Spanish	Kingdom	Catholic	80	
Portugal	Portuguese	Kingdom	Catholic	Very large	
Turkey	Turkish	Despotism	Mohammedan	Very large	
Sweden and Norway	Norwegian & Swedish	Kingdom	Lutheran	Nearly free	
Belgium	{ German and French Flemish	Kingdom	Catholic	30	Of third rank.
Holland	Dutch	Kingdom	Prot. & Cath.	18	
Denmark	Danish	Kingdom	Lutheran		
Switzerland	German and French	Republic	Luth. & Cath.		States of fourth rank.
Greece	Greek	Kingdom	Greek		
Roumania	Latin dialect	Principality	Greek		
Andora	Catalan	Republic	Catholic		
Lichtenstein	German	Principality	Catholic		
San Marino	Italian	Republic	Catholic		
Monaco	Italian	Principality	Catholic		

CLASSES.

31. In almost every European state we find the citizens divided into four distinct classes.

The first is that of the nobility, which exists in most states, with the exception of Norway, Switzerland, France, and the Turkish Empire.

The clergy form the second class of the community.

The third class is that of the citizens, or inhabitants of towns, who, in most countries, enjoy peculiar rights and privileges.

The fourth and lowest class, includes the peasants, and forms the mass of the population in every country.

EDUCATION.

32. Education is becoming far more general than formerly, but there is still a large per cent. of illiteracy in many countries, as will be observed by referring to the preceding table. Germany has perhaps the best school system of any country on the globe. Every child is compelled by law to attend school.

In the territory acquired in the late war with Austria there were a number of states in which the illiteracy was great, so that in giving the per cent. of illiteracy of Germany, she appears at a disadvantage.

RELIGION.

33. All creeds are tolerated in all the countries of Europe. The prevailing religion of each country has been given in the preceding table. There are 154,479,500 Roman Catholics; 78,875,000 Protestants; 71,405,000 Greek Christians; 8,675,000 Mohammedans; 5,000-000 Jews.

CHIEF CITIES.

34. The cities of Europe constitute a remarkable feature of the country, on account of their great population, and the superb buildings they contain, with their various institutions for the encouragement of art, literature, and science.

The following is a list of the principal cities, with their population; *London*, 3,832,000, the largest city in the world, and the first in commercial importance.

Liverpool, 552,000, the greatest cotton emporium. Ship-building is carried on to a great extent.

Cities	Population.	Cities.	Population.
GREAT BRITAIN.		Palermo	244,000
London	3,832,000	Turin	252,000
Glasgow	555,000	Florence	167,000
Liverpool	552,000	Genoa	179,000
Birmingham	400,000	Venice	133,000
Manchester	394,000	Bologna	123,000
Leeds	310,000	Messina	112,000
Sheffield	284,000	Leghorn	97,000
Dublin	250,000	SWITZERLAND.	
Edinburgh	228,000	Geneva	68,000
Belfast	208,000	Basle	61,000
Bristol	207,000	Berne	41,000
Bradford	183,000	Zurich	76,000
FRANCE.		GERMANY.	
Paris	2,269,000	Berlin	1,315,000
Lyons	377,000	Hamburg	305,000
Marseilles	360,000	Breslau	299,000
Bordeaux	221,000	Dresden	245,000
Lisle	163,000	Munich	262,000
Toulouse	132,000	Cologne	161,000
Nantes	119,000	Konigsberg	151,000
Rouen	105,000	Leipzig	170,000
SPAIN.		Hanover	140,000
Madrid	398,000	Stuttgart	126,000
Barcelona	249,000	Frankfort-on-the-Main	155,000
Valencia	143,000	Bremen	119,000
Seville	133,000	Dantzic	115,000
PORTUGAL.		BELGIUM.	
Lisbon	246,000	Brussels	377,000
Oporto	116,000	Antwerp	198,000
ITALY.		Ghent	131,000
Rome	300,000	Liege	135,000
Naples	494,000	HOLLAND.	
Milan	321,000	Amsterdam	372,000

Cities.	Population.	Cities.	Population.
Rotterdam	173,000	Riga	169,000
The Hague	138,000	Astrachan	69,000
DENMARK.		AUSTRIA.	
Copenhagen	273,000	Vienna	1,104,000
NORWAY.		Buda-Pesth	365,000
Christiania	130,000	Prague	190,000
Bergen	34,000	Trieste	145,000
SWEDEN.		TURKEY.	
Stockholm	176,000	Constantinople	873,000
Gottenberg	69,000	Adrianople	162,000
RUSSIA.		ROUMANIA.	
St. Petersburg	929,000	Bucharest	222,000
Moscow	753,000	GREECE.	
Warsaw	431,000	Athens	45,000
Odessa	217,000	Corinth	6,000

ANCIENT GEOGRAPHY.

35. It will be observed that geography has been a progressive science. In the early ages of the world, mankind had no just notions either of its extent or form. Homer, who flourished about 1,000 years B. C.; may be supposed to have had as enlightened ideas of geography as were then entertained. He supposed the earth to be a vast plain, surrounded by a shoreless ocean; beneath he placed the *Elysium*, or *Paradise*, and *Tartarus*, or *hell*. Above was the arch of heaven, supposed to rest on mountains as pillars. The sun, moon, and stars were supposed to rise from the sea in the morning, and to set in it at night. It was believed that those who lived in the remote west could hear the hissing noise of the fiery orb of day as he plunged into the ocean.

Physical geography remains the same from age to age; or, if there is a change, it is unimportant in a general view. The seas, the mountains, the rivers, the coasts of those portions of the earth embraced in the map, therefore, present the same prominent features at the present day, as those which marked them in the time of Cæsar, of David, and of Moses. Particular portions of the earth, also, in many cases, bear the same names now as in ancient times, notwithstanding the fluctuations of political boundaries, and the mutations and revolutions of human society. The following table will be found useful for reference:

ANCIENT DIVISIONS OF EUROPE.

Ancient Names.	Modern Names.	Ancient Names.	Modern Names.
Graecia	Greece.	Helvetia	Switzerland.
Italia	Italy.	Sarmatia	Poland, part Switzerland.
Hispania	Spain and Portugal.	Scandinavia,	
Gaul	France.		Norway, Sweden, Denmark.
Britannia	Britain.	Flanders	Belgium.
Hibernia	Ireland.	Batavia	Holland.
Caledonia	Scotland.	Sicily	Sicily.
Germania	Germany.		

HISTORY.

ANCIENT GREECE.

36. The history of Europe begins with the settlement of Greece. It is said that in the year 1856 before Christ, Inachus, a Phenician adventurer, arrived with a small band of his countrymen, and made a permanent settlement upon this peninsula. At that time Assyria and Egypt had risen to a considerable degree of civilization, while nearly all other nations were in a state of barbarism. Europe was covered with an unbroken forest, inhabited only by wild beasts, except a small band of savages, Pelasgians, were scattered here and there over the country. In 1556 B. C., a colony, led by an Egyptian named Cecrops, established themselves at Attica, and here, in due time, rose the renowned city of Athens. Corinth was founded in 1520. Sparta, or Lacedaemon, the celebrated capital of Laconia, was founded by Lelex, also in 1520.

Cadmus, a Phenician, founded the city of Thebes, in Boeotia, bringing with him alphabetical writing and other useful arts, which are diffused over Greece. The history of these early periods, which we derive from the Greek writings, is obscured by fable; actual events being strangely blended with fabulous marvels, relating to gods and heroes. It is not till 756 B. C., that history becomes authentic and reliable.

The Greeks spread themselves over the peninsula and adjacent islands, and finally planted colonies in Asia Minor. This active and ingenious people steadily advanced in prosperity, and about five centuries before the Christian era they had become the most powerful, learned, and refined nation of the earth. They were divided into numerous states, and frequently engaged in violent and desolating wars with each other. In the year 480 B. C., they combined in defense against Xerxes, king of Persia, who invaded their territory with an army consisting of from two to three millions of men. This defense was successful, and the invader was driven back with humiliation, his army being dispersed and his power broken. In the year 334 B. C., Alexander the Great, king of Macedon, including Greece, invaded Persia, and, in the space of a few years, made himself master of the entire Persian empire. From this time Greece gradually declined; and in the year 146 B. C., it was conquered by the Romans, and reduced to a Roman province. Its arts, learning, and philosophy continued, however, for many centuries, to exercise a civilizing influence; and, even at the present day, the relics of its eminent writers, which have survived, impart instruction to the classical scholar.

ANCIENT ROME.

Rome is said to have been founded in the year 753 B. C., by Romulus, belonging to a Greek colony settled in that quarter. He collected together, by his policy, a considerable number of brave and daring men. By degrees a great city rose on the banks of the little river Tiber, where the present city of Rome stands. Various tribes, some of them more civilized than the Romans, at this time inhabited Italy; but these were all gradually subdued and brought under Roman sway. Several able sovereigns succeeded Romulus; but in the year 509 B. C., in consequence of the misconduct of the king, named Tarquin the Proud, an insurrection arose, headed by Brutus, which resulted in changing the government to a Republic. From this time the power of Rome gradually increased, until she became mistress of nearly the whole civilized world. About the year 45 B. C., the Roman Republic was overturned by Julius Cæsar. Several ambitious men now struggled for the supreme power, till the year 27 B. C., when Augustus Cæsar gained the ascendancy and was declared emperor. At this period the empire embraced nearly the whole of Europe, the northern and north-eastern portions of Africa, and all western Asia. It continued, under various emperors, for several hundred years.

In the year 395 A. D., the empire was divided into the eastern and western. The capital of the former was at Constantinople. Its territories extended over Greece, Asia Minor, Syria, Egypt, etc. This power is often called in history the Greek Empire, and also the Byzantine Empire. The Western Empire had Rome for its capital, and comprised the larger portion of Europe; but in the year 476 A. D., it was finally overwhelmed by numerous warlike tribes from the north.

BARBARIANS.

The people who thus destroyed the Roman empire consisted of various nations of Barbarians from Norway, Sweden, Denmark, and different parts of Germany. For two thousand years prior to this event, numerous tribes from central portions of Asia had continued to emigrate to northern Europe; some passing north of the Caspian, and others between the Caspian and the Black seas. Among these was a very numerous tribe called the Celts, who settled in France, then called Gaul. Spreading in various directions, some passed into Spain, some into northern Italy, and some into England, Ireland, and Wales. Portions of these made formidable attacks upon their southern neighbors at an early date.

In the year 390 B. C., 70,000 of them marched against Rome, and got possession of the city, excepting the capitol. The cackling of the geese in the Temple of Juno gave warning to the sentinels, as the Gauls, at night, were about to surprise this fortress. The Romans only saved the city from destruction by a heavy tribute of gold. In the year 278 B. C., an immense force, under Brennus, ravaged northern Rome; but they were dispersed and driven back. Julius Cæsar marched into Gaul, and, after sacrificing a million of men, reduced the country to a Roman province. In Germany the tribes were numerous, and of a warlike disposition. These bore the general name of Teutones, including various minor divisions.

Besides these were the Goths, who had settled in Sweden and the vicinity; the Vandals, a kindred tribe in the same quarter; the Ostrogoths, of Austria; the Suevi, near the Baltic; and many others. These people increased in numbers and power, and, as the Roman empire became weakened, they grew troublesome and dangerous.

About the year 410 A. D., Alaric, king of the Visigoths, a people dwelling on the Danube, thrice marched against Rome, and in two instances made himself master of it. In the year 451, Attila, king of the Huns, crossed the Alps, and, advancing toward Rome, threatened that city with destruction. This was only prevented by large bribes given to the barbarian chief by the Pope.

The Roman empire had been built up by making war without scruple or mercy on all other nations. The day of retribution was now at hand. The Romans were enfeebled by luxury, and degraded by every species of vice and corruption. The northern nations were poor, but vigorous, daring, and warlike. Alaric and Attila had taught them the way to Rome. The rich cities and smiling valleys of Italy seemed to invite them to exchange their cold and sterile homes, with their poverty, for the boundless riches and happy climate of the south. They were not long yielding to this temptation. Like a mighty river breaking its boundaries, they came over the Alps in a living and impetuous torrent, taking possession not only of Italy, Spain, and part of Greece, but they swept across the Mediterranean, and settled down upon the cultivated parts of northern Africa.

THE MIDDLE AGES.

The events that immediately preceded the fall of Rome were of the most terrific character. The whole of Europe seemed covered with armies of fighting men. There was, indeed, a general movement from Great Britain to the shores of China, in Asia. The lives of several millions of human beings were sacrificed in this frightful convulsion. At last, Odoacer, chief of the Heruli, a German

people, was made king of Rome. The barbarians had now full possession of Italy. Roman civilization was at once extinguished. The books, paintings, statues, and works of art which the Romans had robbed from other nations, or had themselves produced, were destroyed by its rude, illiterate conquerors. The Dark Ages, or, as they are frequently called, the Middle Ages, which continued for a thousand years, now began. Kings and princes made it their boast that they could neither read nor write. Learning was confined almost wholly to the Monks. In the universal ignorance an infinite variety of superstitions overspread the minds of men. An eclipse of the sun was thought to be a forerunner of the end of the earth; comets were deemed fiery monsters, threatening war, pestilence and famine; and even common events were imparted to miraculous causes. The belief in witch-craft was universal. Ghosts were imagined to walk abroad at night; fairies to dance in the meadows; and every house and home was haunted by good or evil spirits. Men were tried, not by judges and jury, but by ordeals of fire and water. Judicial perjury prevailed everywhere. Robbery by land and piracy by sea were practiced by kings and nobles. Yet this page of darkness was relieved by some pleasing passages. We are told of knights and fair ladies who went to the fields with their falcons; knights errant traversed the country in search of adventures; the crusades ran their wild career. The Reformation broke the spell of superstition; one by one the modern nations of Europe were founded; and at last, about the commencement of the sixteenth century, the age of darkness ceased, and a new *Era of Light* dawned upon the world.

THE MODERN KINGDOMS OF EUROPE.

The present states and kingdoms of Europe have all originated within the period called *Modern History*. France became a kingdom in the time of Clovis, A. D., 481; England in 827; and Spain in 1479. The power of Austria was founded in 1273; Prussia became a kingdom in 1701; Germany became a distinct monarchy in 883; Denmark about 1050; and Russia about 1050. These kingdoms were originally built upon the feudal system; but though in some cases the forms of government continue, their original character has yielded to the softening influence of modern civilization.

CHRONOLOGY OF PRINCIPAL EVENTS.

	B. C.
First settlement of Greece by Inachus	1856
Athens founded	1556
Trojan war	1184
The celebrated poet Homer lived	1000
Rome founded	753
Tarquin expelled	509
Rome taken by the Gauls	389
Alexander sets out for the conquest of Persia	334
Greece reduced to a Roman province	146
Gaul or France conquered by Cæsar	55
Great Britain invaded by Cæsar	50
Beginning of the Roman empire	30
	A. D.
London founded by the Romans	50
Roman empire divided	395
End of the Roman empire in the west	476
Spain conquered by the Saracens	713
Charlemagne crowned emperor of the west	800
First crusade	1097
Kingdom of Portugal founded	1132
Gunpowder first known in Europe	1330

	A. D.
Printing invented	1423
America discovered by Columbus	1492
Beginning of Luther's Reformation	1517
Telescopes invented in Germany	1590
Charles I. of England beheaded	1642
Prussia becomes a kingdom	1701
Great earthquake at Lisbon	1755
French Revolution	1789
Louis XVI. beheaded	1793
Italy conquered by Bonaparte	1796
Napoleon Bonaparte crowned emperor of France	1804
Battle of Waterloo—Napoleon overthrown	1815
Death of Napoleon	1821
French Revolution—Louis Philippe proclaimed king	1830
Belgium separated from Holland	1830
Victoria proclaimed queen of Great Britain	1837
Louis Philippe dethroned—France a republic	1848
Franco-Prussian war	1871

CHAPTER XVIII.

GREAT BRITAIN.

MAP EXERCISES.

Locate the following :

CAPES.

Land's End, Duncansby Head, Wrath, Clear, Mizzen, Erris Head, Malin Head.

GULFS, ETC.

Galway, Donegal, Cardigan, Dornoch Firth, Moray Firth, Firth of Forth, Firth of Tay, The Wash, Solway Firth, Clyde Firth.

SEAS.

Irish, North.

STRAITS AND CHANNELS.

Dover, English, North, St. George's, Bristol, Menai, the Minch.

ISLANDS.

Great Britain, Ireland, Man, Scilly, Wight, Anglesey, Islay, Skye, Hebrides, Orkney, Shetland, Channel, Lewis.

MOUNTAIN RANGES.

Lowther Hills, Grampian Hills, Chevoit Hills, Cambrian, Cum-brian, Pennine.

LAKES.

Erne, Neagh.

RIVERS.

Thames, Severn, Clyde, Shannon, Humber, Trent.

CITIES.

London, Glasgow, Liverpool, Manchester, Birmingham, Dublin, Leeds, Sheffield, Bristol, Belfast, Bradford, Dundee, Newcastle, Hull, Portsmouth, Leicester, Sunderland, Merthyr Tydvill, Brighton, Cork.

RELATIVE POSITION.

In what direction is London from Liverpool? from Dublin? Edinburgh? Paris? Strait of Dover? Liverpool from Glasgow? Cork?

TRAVELS.

On what bodies of water would you sail in going from London to Liverpool? Dublin? Dundee? St. Petersburg? Liverpool to Lisbon? Havre? Bremen? Bristol? New York? Columbus, O.?

MISCELLANEOUS.

What is the latitude of London? Dublin? Edinburgh? What is the longitude of each of these places? What is the difference of time between London and Dublin? Between London and Berlin? What seasons has the northern part of Scotland? Name five sea-ports of England.

DESCRIPTION.

POSITION.

1. Great Britain is situated in the north-western part of Europe, and is surrounded by the Atlantic ocean, North sea, English channel, and Strait of Dover.

It lies between 50° and 59° north latitude, and between 2° east and 10° west longitude.

EXTENT.

2. England is 380 miles long and 160 wide; area, 51,000 square miles. Scotland is 300 miles long and 160 wide; area, 30,000 square miles. Ireland is 300 miles long and 200 wide; area, 33,000 square miles. Wales contains an area of 7,000 square miles. As will be observed, England is about as large as Alabama, while Scotland and Ireland are each about as large as Indiana.

GENERAL OUTLINE OF THE COAST.

3. The coasts are irregular and abound in deep inlets. The shores of England are generally rocky. On the English channel there are high and chalky cliffs, whose white appearance gave the island the name of Albion in ancient times. The south-western extremity is a long peninsular project, terminating in what is called Land's End.

The eastern coast of Ireland is low and flat, except the north-east, where the shore is rugged and precipitous.

CAPES.

4. *Duncansby Head* projects from the north-east of Scotland; on its summit is an ancient watch-tower. *Cape Wrath* projects from the north-west of Scotland, and contains a light-house 400 feet high. *Malin Head* projects from northern Ireland, and *Cape Clear* from southern Ireland.

GULFS AND BAYS.

5. *Bristol Channel*, the largest bay, is twenty miles wide and sixty long. Nearly all of the important rivers of Great Britain have wide mouths, resembling bays. The mighty waves of the Atlantic have scooped out some large bays in the west coast of Scotland. There are numerous small harbors.

SEAS.

6. The *North* and the *Irish* seas belong to this portion of Europe; their surfaces are always white with sails.

CHANNELS AND STRAITS.

7. The following are the principal:

Straits, etc.	Width. Miles.	Length. Miles.
Dover	21	
English	20 to 155	300
North	30	65
St. George's	40	100
Menai	2	11

ISLANDS.

8. This division of Europe is an archipelago, embracing 5,500 islands, but the vast majority are small and rocky.

The *Isle of Man*, in the North sea, contains a population who still use the Manx language.

The *Isle of Wight* is a beautiful and fertile island at the south; it presents almost every variety of landscape in miniature. It is called the "Garden of England." "The Needles" are three pointed rocks west of this island, and the "Needle Light-house" is on the western extremity of the Isle of Wight, 469 feet high.

Near the southern extremity are the *Scilly Isles*, 145 in number; six are inhabited, the rest are mere rocks. Numerous druidical monuments are found here.

On *Barro* island, west of Scotland, is the highest light-house in Great Britain, 680 feet high.

The *Channel* islands, consisting of Guernsey, Jersey, Alderney, and Stark, with two others, lie near the French coast; all are inhabited and belong to England; Jersey, the largest, is twelve miles long, and seven wide. Their mild climate, picturesque scenery, and cheap living have made them popular resorts.

These islands are all noted for their apples, pears, cider and fine cattle. The Alderney or Jersey cattle are native here.

Guernsey produces oranges, figs, myrtles, melons, etc., so mild is the climate.

Jersey is one continued orchard dotted all over with picturesque villages. Extensive oyster beds are found here giving employment to 3,000 men. The coasts of all are bold.

Of the numerous islands west of Scotland, eighty-seven are inhabited and cultivated; the products being cattle, sheep, fish, kelp, birds' eggs, and feathers. The hunting of birds' eggs, by swinging over the rocky ledges, is a leading occupation of the people among all the islands.

The *Orkneys*, to the north-east of Scotland, seventy-three in number, are rocky, barren, and desolate.

Fifty miles to the north are the *Shetland Isles*. They are eighty in number, forty being inhabited. They are bleak and barren, and surrounded by tempestuous seas.

Islands.	Length. Miles.	Breadth. Miles.	Area. Sq. Miles.	Population.	Remarks and Products.
Man . . .	20	6 to 12	280	54,000	Lead, zinc, iron, copper.
Wight . .	22½	13½	146	66,000	Malt, wool, salt, sand for the manufacture of glass, are exported.
Shetland			5,338	31,600	Coasts bold and rocky, with precipitous cliffs.
Orkney .			2,448	31,000	73 in number; 30 are inhabited. Oats, barley, potatoes, and turnips are the chief crops.
Hebrides			3,000	150,000	160 in number. The language is Gaelic.
Islay . .	25	17		8,000	Meal, bog iron ore, lead and copper mines.
Anglesey.	20	17		51,000	Wheat, barley, oats, cattle, fish, copper, and lead are exported.
Mull . .	30	18		18,000	Surface is rugged.

Staffa, one and one-half miles in circumference, is remarkable for its caves, the principal of which are Fingal's, and Clam Shell.

SURFACE.

9. In general, the aspect of England is varied and delightful. In some parts verdant plains, watered by copious rivers, extend as far as the eye can reach. In others are swelling hills and bending vales, fertile in grain, waving with wood, and interspersed with meadows. Some tracts abound with prospects of the more romantic kind, embracing lofty mountains, craggy rocks, deep, narrow dells, and tumbling torrents. Here and there are black moors, wide heaths, and desolate plains. The south-eastern parts are level or slightly undulating, while the northern and western portions are hilly and mountainous.

Wales is a rugged country.

The surface of Scotland is, in general, much broken by hill and dale, mountain and valley. The country is divided into the Highlands in the north, and the Lowlands in the south. The former embrace two-thirds of the territory. The latter presents beautiful hills, vales and cultivated plains, with many fine country-seats and noble parks.

Ireland contains immense tracts called bogs, extending in a broad belt through the center of the island, producing nothing but heath, bog-myrtle, and sedge-grass. The remainder of the soil is stony, but high cultivation has rendered much of it productive. The surface of Ireland is generally level, with swelling hills and a few mountains of moderate elevations. The general appearance of the country is varied and pleasant, destitute of trees, but cheerful on account of its verdure. The bogs furnish ample supplies of peat, used by the inhabitants for fuel.

MOUNTAIN RANGES.

10. The mountain chains of the British Isles are not lofty, but few of the peaks have an elevation of more than 3,000 feet.

MOUNTAIN PEAKS.

11. The following are the highest peaks:

NAME.	FEET.
Snowdon, (Wales)	3,600
Ben Nevis, (Scotland)	4,370
(On the one side it has a perpendicular precipice of 1,500 feet, affording a fine prospect.)	
Ben Lomond, (Scotland)	3,820
Broad Low, (Chevoit Hills)	2,740
Skiddaw, (Cumbrian Mountains)	3,022
Scafell, (Cumbrian Mountains)	3,330

PLAINS AND VALLEYS.

12. The country known in England as the *Fens*, is a flat, marshy district near the wash. There are numerous heaths, which first derived their name from being covered with a plant by that name. They are generally uncultivated, shrubby wastes. There are no valleys of great extent. The borders of the rivers are generally crowded with cities, teeming with population.

NATURAL CURIOSITIES.

13. England possesses quite a number of curiosities, consisting of curious peaks and caverns, petrifying wells, etc.

In the small island of Staffa is the celebrated basaltic cavern called *Fingal's cave*. It is 227 feet long, 166 feet high, and 66 feet wide at the mouth.

The *Giant's Causeway*, on the north-eastern coast of Ireland, is an immense mass of basaltic columns, standing compactly together, and having from three to seven sides.

They are perpendicular, smooth, and regular, as if hewn by art. They are of different pieces, two to three feet long, and nicely fitted together like ball and socket joints. The Irish legend is that it was built by a race of giants to form a road to Scotland. It is 600 feet long.

To the west of this are the ruins of *Dunluce Castle*, remarkable for their situation on an elevated rock cliff overhanging the sea.

"*The Needles Eye*" is a subterraneous passage on the western coast of Scotland, 450 feet long from sea to sea, and at the north end is a large cave, supported by immense columns of rocks and exceedingly grand.

The *Lakes of Killarney* are exceedingly fine. They are situated in the midst of beautiful mountains, which contain beautiful water-falls. *Sullivan's Cascade*, seventy feet high, falls into the lake with a roar that strikes one with awe. On one side is a celebrated mountain rock, known as the "Eagle's Nest," which produces wonderful echoes. "The report of a cannon is answered by a succession of peals resembling the loudest thunder, and at length dies away among the distant mountains."

"The islands of this lake are numerous, affording an amazing variety of picturesque views." On the eastern border is a mountain from whose side tumbles a lofty cascade, fed by a circular lake at the summit, known as the "Devil's Punch Bowl," which is regarded as one of the greatest curiosities in the entire region.

ANTIQUITIES.

14. There are many ruins and remains of past ages scattered over England. Some of these are supposed to have been connected with the worship of the Druids, who were the priests of the ancient Britons.

The ruins of ancient abbeys and castles, found in different places, are interesting relics of by-gone times.

Near *Perth*, in Scotland, are circular towers of unknown origin. There are large enclosures, with vitrified walls in several places.

In the south of Scotland are vestiges of Roman roads and camps, and parts of Antonine's wall, which extends from the Forth to the Clyde.

The remains of *Roslin's Castle*, near Edinburgh, *Melrose Abbey*, on the Tweed, and other Gothic structures, are celebrated in song and sketches of tourists.

LAKES.

15. The lakes of England are small, but celebrated for natural beauty, heightened by cultivation and the country-seats around.

Windemere is ten miles long and one to two broad.

Derwentwater, four miles long, is esteemed the most beautiful.

The lakes of Scotland are associated with the romance and song of that country.

Loch Lomond, the largest, is thirty miles long, and sprinkled with islands.

Near by is *Loch Katrine*, famous for its scenery, accurately described in Scott's charming poem, "The Lady of the Lake."

Ireland abounds in lakes, and some of them are valuable for their fish and commercial importance.

(1) The largest is *Lough Neagh*, in the north, fifteen miles long and seven broad.

(2) *Erne* and *Corrib* are narrow sheets of water of considerable length

The *Lakes of Killarney* are famous for their picturesque beauty. They contain the "wildest ravines, the finest woods, and some of the boldest cascades in Ireland."

RIVERS.

16. The rivers of the British Isles are for the most part quite small. The following are the principal:

Rivers	Length. Miles.	Area of Basin. Sq. Miles.	Remarks.
Thames . .	215	6,160	Navigable to London, sixty miles.
Severn . .	210		Navigable 180 miles; tides perceptible 120 miles, and the bore is violent.
Mersey . .	60		Navigable 20 miles.
Humber . .	40		Navigable full course.
Clyde . . .	75		It contains the falls of the Clyde, 230 feet high.
Tweed . .	95	1,870	Only a few miles, but it is remarkable for its salmon fisheries.
Shannon .	224	8,000	Nearly all of it is navigable.
Great Ouse	160		105. Very tortuous course.

SOIL.

17. The soil is not naturally fertile, but diligent and careful cultivation has made it one of the most productive countries of the globe. England is farmed like a garden. The great amount of rain-fall assists much in the rearing of crops. Owing to their moist climate these islands are covered with a remarkable verdure. Ireland and Scotland are less fertile than England. Some of the valleys of Scotland have a good soil, yet a great part of the country is barren. The mountains are naked of trees, and have a gloomy but picturesque aspect.

CLIMATE.

18. England has an atmosphere of fog, rain, and perpetual change, yet the climate is mild. The rigors of winter and heats of summer are tempered by the surrounding sea. Many kinds of kitchen vegetables remain uninjured in the ground throughout the season. The snows rarely lie upon the earth more than two or three days.

The Scilly islands have a semi-tropical climate.

The climate of Wales is colder than that of England, and snow is common among the mountains.

The climate of Scotland is distinguished for its fogs and drizzling rains. Twilight in summer lasts all night.

The moisture of Ireland is in excess of that of England. Though the soil is not naturally productive, the moist climate clothes the island with such a remarkable verdure that it has received the name "Emerald Isle." The average rain-fall of Great Britain is about thirty-four inches.

ANIMALS.

19. The wolf, bear, and other savage animals, have been exterminated. The badger, fox, wild-cat, weasel, marten, otter, squirrel, and dormouse remain. The stag and fallow-deer are wholly or partially domesticated on some of the large estates, except in some of the forests of Scotland, where they are still found wild. Hares, pheasants, and rabbits abound in the preserves. The domestic quadrupeds have been brought to the highest perfection by breeding and training.

Eagles, hawks, and singing birds are numerous. The domestic birds are wholly of foreign origin; poultry from Asia; the Guinea-fowl from Africa; peacock from India; pheasant from Colchis, and the turkey from America.

The reptiles and insects are few. St. Patrick is said to have caused the destruction and banishment of all reptiles from Ireland.

Turbet, dace, sole, coe, plaice, smelt, shrimp, etc., are found along the coast. Salmon, trout, etc., frequent the rivers. Shell-fish abound.

AGRICULTURAL PRODUCTS.

20. But few of the vegetable products of England are indigenous. The most useful plants have been imported from the continent.

Wheat, rye, barley, oats, and cattle are staple products.

Flax and potatoes are leading crops of Ireland. Horses are raised in considerable numbers. It is curious that the animal dwindles to a pony in the northern British Isles.

MANUFACTURES.

21. Great Britain surpasses all other countries, except the United States, in the extent, variety, and perfection of its manufactures. They consist of cottons, woollens, linens, hardware, cutlery, machinery, railroad iron, glass, paper, prepared tobacco, flour, butter, whisky, etc.

MINERALS.

22. Salt, iron, coal, and tin are abundant. The resources of the British Isles in their useful minerals surpass those of any other country except the United States.

England furnishes more than one-half of all the coal, nearly one-half of all the iron, and one-third of all the lead used in the world, besides more tin and copper than any other country.

Slate and limestone are common in Wales.

Marble and some gold and silver have been found in Ireland. The coal of the latter country is of inferior quality.

COMMERCE.

23. In the extent of her commerce Great Britain exceeds every other country on the globe. In 1879 (the latest official report) the imports amounted to £363,000,000; the exports £249,000,000.

The chief articles of import are as follows: Grain, seeds, fruits, animals and animal provisions, tobacco, cotton, wool, lumber, cordage, coffee, teas, spices, etc.; the exports are fuel, raw metals, pottery, glassware, machines, vessels, cotton and woollen goods, clothing, cutlery, hardware, yarn, etc. Whole number of merchant vessels 26,000, of 6,550,000 tons, manned by 210,000 men.

NATURAL ADVANTAGES.

24. (Let the pupil give the natural advantages for commerce, agriculture, and manufacturing, from what he has learned.)

INTERNAL IMPROVEMENTS.

25. Railroads and canals cross in every direction. The common roads are the best in the world. Across Menai strait are two stupendous bridges, the suspension bridge and the Britannia. The latter, a railway bridge, is an immense tubular structure, supported on great

stone towers 100 feet above the level of the sea. Electric telegraphs connect London with every quarter of the globe. There are about 105,000 miles of telegraph wire. In no country is the internal intercourse rendered so easy as in England.

NUMBER OF MILES OF RAILROAD.

England	20,192
Scotland	4,609
Ireland	3,667
Total	28,468

Caledonian Canal, situated in northern Scotland, is the most important of its kind in Great Britain, and is sixty miles long.

INHABITANTS.

26. The inhabitants of Great Britain are divided into four classes: the *nobility*, which includes dukes, marquises, earls, viscounts, and barons; the *gentry*, including those who are distinguished for wealth, education, talents, or official station; and the *commonality*, which comprises the mechanics, tradesmen, and the working class generally. The English are a robust, florid, handsome people, fond of domestic life, and largely addicted to athletic amusements.

The people of Wales are industrious and frugal. The people are descendants of an ancient Celtic tribe, and their original language is still preserved and spoken by some of the people.

The Scotch are divided into the Highlanders and Lowlanders. The former are of Celtic origin, and speak what is called the Gaelic dialect.

They still retain many of their ancient manners and dress. In general the Scottish nation has displayed high intellect, especially in history, philosophy, poetry, and prose fiction. Nearly all of their lakes, rivers, and mountains are celebrated in the songs of Burns, Ramsey, and other poets. Scott has thrown a peculiar charm over many localities by his ballads and historical romances.

In the north-east of Ireland a large part of the population consists of the descendants of English and Scotch, who settled in the country many years ago. The rest are of the Celtic origin. Their native language, called the Irish or Erse, resembles that of Welsh and Scotch Highlanders. In some parts of the south and west many of the people know no other language. The beggars in Ireland are numerous, and celebrated for their eloquence.

A great part of the peasantry live in miserable mud cabins, usually with a floor of clay, and without windows and chimneys. The chief food of the peasants consists of potatoes and milk. In 1847 a blight, called the *rot*, fell upon the potato crop, in consequence of which the country was desolated by famine and pestilence. It is supposed that three or four hundred thousand persons died of starvation during this frightful period.

The Irish are remarkable for wit, cheerfulness, and warmth of heart; and Swift, Goldsmith, Steele, Grattan, Curran, Burke, Thomas Moore, Wellington, and O'Connell, all Irishmen, have furnished brilliant examples in the highest walks of genius.

NUMBER OF INHABITANTS.

27. The following table will exhibit the population of the British Empire, together with the area :

	Area. Sq. Miles.	Population.
England and Wales	58,311	25,480,000
Scotland	30,463	3,661,000
Ireland	32,551	5,364,000
Islands in British waters	303	145,000
Soldiers and sailors abroad		216,000
Total	121,608	34,866,000

	Area. Sq. Miles.	Population.
Foreign possessions in Europe	145	172,000
“ “ “ Africa	391,000	2,854,000
“ “ “ Asia	933,000	195,000,000
“ “ “ Australia	3,085,000	2,821,000
“ “ “ America	3,359,000	5,270,000
Total foreign possessions	7,770,900	205,620,000
Total British Empire	7,890,000	246,487,000

OCCUPATION.

28. The leading occupations are manufacturing, commerce, and mining.

Agriculture engages many of the inhabitants. Many of the farms in England are large, while those of Wales and Scotland are very small, the vast majority of land-owners having less than five acres. England surpasses every other country in the skill with which its agriculture is conducted. In the rest of the kingdom agriculture is in a more backward state.

The fisheries of Great Britain give employment to many thousands of people.

LANGUAGE.

29. The prevailing language is the English, but in many parts outside of England, the inhabitants still use the original tongues.

GOVERNMENT.

30. The government of Great Britain is a limited hereditary monarchy.

The Parliament consists of a House of Lords and House of Commons. These make the laws which must be ratified by the sovereign. The Commons constitute the Lower House, and are elected by the people; the Lords are composed of two classes—the Lords Temporal and the Lords Spiritual—the former hold their position by hereditary right; the latter, the archbishops and bishops, by virtue of their office. The supreme power is vested in a king or queen. The present ruler is Queen Victoria.

There are several palaces occasionally occupied by the sovereign. That in London, called the Buckingham Palace, is one of the finest. Windsor Castle, a splendid pile of buildings, in the ancient style, twenty miles from London, is another royal residence. A summer residence of the royal family is Balmoral Castle, Scotland.

EDUCATION.

31. In England education is now pretty generally provided for, although for the poorer classes the means are not yet ample, and many depend on Sunday-schools for instruction. There is considerable illiteracy among the Irish.

Scotland is noted for the general diffusion of education among the people. There are many universities and schools of a superior order, especially in Scotland and England. The universities of Oxford, Cambridge, and Edinburgh are world-renowned.

RELIGION.

32. The established religion of England is Episcopacy. The king or queen is the supreme head of the church, which is governed by two archbishops and twenty-six bishops; in the colonies and dependencies, thirty-two bishops. The archbishop of Canterbury is styled the primate of all England.

Dissenters are numerous, embracing Methodists, Baptists, Quakers, Roman Catholics, etc. These comprise about one-half the population.

The Presbyterian is the established church of Scotland, but there is a large secession from this called the Free Church of Scotland, besides a considerable body of dissenters.

More than three-fourths of the people of Ireland are Roman Catholics; in the north the Presbyterian faith prevails.

CITIES.

London, the capital of the kingdom, is the richest and most populous city in the world. It is popularly known as the "Modern Babylon." It has a population nearly equal to that of Ohio and West

Virginia combined. The river Thames passes through it, and over this are several splendid bridges. The largest is 1,239 feet in length. There is a passage called the *tunnel*, which goes under the river Thames from one side to the other. Its commerce is very extensive.

Among the numerous splendid edifices in London are the Parliamentary Houses, Westminster Abbey, St. Paul's Cathedral, the Tower, the Bank of England, and the Royal Exchange. The West End contains the residences of the nobility and gentry, and the eastern part is devoted to business. London at all times has an atmosphere dimmed with smoke; but in the winter the smoke and fog together render it so dark that it is often necessary to light the lamps of the streets during the day. A celebrated English poet thus describes the scene at this period:

"No sun, no moon,
No morn, no noon,
No dusk, no dawn,
No proper time of day.

"No sky, no earthly view,
No distance-looking blue,
No road, no street,
No 'tother side the way."

The country for miles around London is thickly studded with residences, sometimes in groups, and sometimes standing apart, the grounds being tastefully laid out and ornamented with gardens and pleasure grounds.

Among the other cities of note are *Liverpool*, whose commerce is almost equal to all the other sea-ports put together, and has the most extensive docks in the world; the value of its trade is the most extensive of any city in the world except New York; *Manchester*, famed for its manufacture of woollen goods and as the chief manufacturing city of the globe; *Birmingham*, for its hardware and manufactures; *Sheffield*, for its cutlery; *Leeds*, for its woollen goods; *Coventry*, for its watches; *Bath*, one of the handsomest cities in England, is noted for its mineral waters; *Oxford* is known as the "City of Palaces."

Bristol, *Cheltenham* and *Brighton* are also well known as watering places.

Merthyr Tydvil, the chief city of Wales, is noted for its iron furnaces.

Edinburgh, the capital of Scotland, is renowned for its great number of literary men, and is one of the most interesting cities in the world.

Glasgow is situated in the midst of coal and iron mines, and is noted for its manufactures; *Melrose*, for the fine ruins of its abbey; *Ayr*, as being near the birthplace of the poet Burns; *Aberdeen*, for its university; *Paisley* and *Pesth* are manufacturing cities.

Dublin is the capital of Ireland. It has some splendid streets, and many beautiful edifices.

Belfast has the largest linen factories in the world. *Cork* has an extensive trade.

Limerick and *Galway* are important sea-ports on the west. The following are a list of the principal cities, with their population:

Cities.	Population.	Cities.	Population.
London	3,832,000	Dundee	143,000
Glasgow	556,000	Newcastle	145,000
Liverpool	552,000	Hull	137,000
Manchester	394,000	Portsmouth	125,000
Birmingham	400,000	Leicester	113,000
Dublin	250,000	Sunderland	108,000
Leeds	309,000	Brighton	101,000
Sheffield	284,000	Aberdeen	98,000
Edinburgh	228,000	Merthyr Tydvil	97,000
Bristol	207,000	Nottingham	94,000
Belfast	208,000	Cork	78,000
Bradford	183,000		

FOREIGN POSSESSIONS.

34. The following are the leading foreign possessions, together with area and populations:

Names.	Area. Square Miles.	Population.	
Gibraltar	193	18,000	Europe.
Malta	143	147,000	
Cyprus	3,707	150,000	
British India	899,341	191,095,000	Asia.
Ceylon	24,702	2,756,000	
Hong Kong	32	139,000	
Nicobar Isles	684	5,500	
Andaman Islands	2,508	14,500	
Laccadive Islands	744	6,800	Africa.
Cape Colony	199,950	721,000	
Natal	18,750	357,000	
Transvaal	113,743	40,000	
Sierre Leone	1,000	39,000	
Gold Coast	15,000	400,000	Oceanica.
Australia	2,968,887	2,174,000	
Tasmania	26,215	110,000	
New Zealand	104,272	432,000	
Feejee Islands	8,033	112,000	
Canada	3,357,000	4,325,000	America.
Newfoundland	43,000	161,000	
Jamaica	4,250	558,000	
British Guiana	85,425	240,500	
British Honduras	7,562	25,000	
Falkland Isles	4,838	1,394	

HISTORY.

35. The kingdom of Great Britain and Ireland includes England, Wales, Scotland and Ireland. These several divisions anciently constituted so many different nations. Wales has been attached to England since 1282 A. D.; Scotland was united to it in 1707, and Ireland in 1800; all these countries finally coming under one legislation. Thus the present United Kingdom was formed.

England appears so prominently in the history of the British Islands that, in common language, we often speak of England as embracing the whole empire, and of the English as meaning the whole people. England from the first has been the leading kingdom.

The Phenicians and Carthaginians were acquainted with these islands, and the former visited them frequently for the sake of obtaining tin. Cæsar gives the first knowledge of this country. It was first known to the Romans by the names *Britannia* and *Albion*. The inhabitants, called *Britons*, were of the Celtic race.

England was conquered by the Romans, under Julius Cæsar, 55 B. C. He describes the Britons as living in scattered villages, on the banks of rivers, and in the midst of forests. Most of them were complete savages, tattooing their skins, and dressing in the hides of cattle.

The southern tribes were more civilized than those of the north. They practiced agriculture in a rude manner.

They had no books or means of recording events, and were divided into numerous tribes, each having a chief. The Druids were the priests and lawgivers, the chiefs only commanding in the time of war. Under the sway of the Romans, towns and castles were built, and London, which was at first a forest, became a rich and populous city.

Caledonia, now Scotland, was inhabited by Scots and Picts, a wild and war-like people, who made frequent incursions into the territories of the Romans. The Romans never conquered Scotland. Ireland, and some of the Welsh, long continued independent in their mountains. England was under Roman control for nearly 500 years. About the year 440 the Romans were compelled, in order to protect their cities and territories in Italy from barbarians, who began to pour in there, to withdraw their troops from Britain, as well as from other remote provinces.

In 448 A. D. a party of 300 Northmen and Saxons, led by Hengist and Horsa, landed in Britain. The people suffering under the ravages of the Scots and Picts, asked for their assistance. This was granted, and the enemy was driven back.

The result was that the Saxons obtained the mastery, and divided England into seven kingdoms, called the Saxon Heptarchy, A. D. 559. The Saxons were composed partly of a tribe of Angles; whence these invaders, who became the founders of the English people, are called Anglo-Saxons—a name still given to their descendants. They at last quarreled among themselves, and Egbert, King of Wessex, reduced the other tribes. He was accordingly crowned A. D. 827, King of Angle Land, thus establishing the kingdom of England.

Alfred, who received the crown in 871, was one of the greatest kings that ever sat upon the throne of England. He established good laws, encouraged learning, instituted the right of trial by jury, and at last died 901 A. D., loved by his subjects, feared by his enemies, and admired by mankind.

From this period the history of England flows on in an unbroken current.

It is impossible for us to give even an outline of the history of that country, and the events which have at last rendered it the mightiest empire on the face of the globe. We can only note a few of the leading incidents.

In the year 1066 the Monarch line of Kings was introduced by William, Duke of Normandy. In 1215 the barons of England compelled King John to sign what is called *Magna Charta*, by which the power of the crown was limited, and the liberties of the people in some degree acknowledged and secured. In the reign of Henry VI. occurred the celebrated War of Roses, so called because those attached to the house of Lancaster wore red roses as their badges, and those attached to the house of York wore white roses. In 1524 Henry the VIII. caused the Church of England to be separated from the Church of Rome. In 1605 the celebrated Gunpowder Plot took place. In 1649 England became a commonwealth, and Oliver Cromwell the chief ruler.

CHAPTER XIX.

FRANCE.

MAP EXERCISES.

Bound France. What river empties into the English Channel? What three rivers empty into the Bay of Biscay?

What two rivers unite to form the Gironde? What river empties into the Gulf of Lyons? Describe each of these. What mountains on the eastern boundary? What mountains further west? What plateaus in France? Locate them.

Locate the following cities: Paris, Havre, Calais, Brest, Rheims, Nantes, Angers, Tours, Orleans, Bordeaux, Toulon, Marseilles, Lyons.

RELATIVE POSITION, ETC.

In what direction is Paris from Lyons? from Marseilles? from Bordeaux? from Brest? from Havre? from London? In what direction is Lyons from Rome? from The Hague? from Madrid? from Geneva? What is the latitude and longitude of the three largest cities? What isotherms cross France? When it is 12 o'clock and 3 min. Saturday morning in Paris, what is the time in London? what in Hecla? what in Warsaw? Can you see the sea from Mount Blanc?

TRAVELS.

Trace a water route from Paris to Orleans; to Lyons; to Bordeaux; to London; from Havre to Marseilles; to Bremen; to Athens; to Rome.

DESCRIPTION.

POSITION.

1. France lies between 43° and 51° north latitude, and between 5° west and $8^{\circ} 25$ min. east longitude.

EXTENT.

2. The greatest length is about 600 miles and breadth about 500. Area, 204,000 square miles.

COAST.

3. The shore line of France measures 1,320 miles. On the Mediterranean coast are some good harbors. Along the Atlantic the shores are formed of sandy cliffs, presenting few havens. The *Gulf of Lyons* on the south, and the *Bay of Biscay* are the principal indentations.

ISLANDS.

4. Several islands of note belong to France, among which *Corsica*, in the Mediterranean, fifty miles long and one hundred miles from the

French coast, is celebrated as the birthplace of Napoleon Bonaparte. The island is mountainous, and there are many beautiful plains and valleys.

SURFACE.

5. There are many mountain ranges, presenting a variety of surface and scenery. The *Pyrenees* mountains are on the boundary between Spain and France. On the eastern border are the *Alps*, the *Jura*, and the *Vosges*. The *Cevennes* are in the interior. There are several peaks of considerable height. The face of the country is generally level, diversified with hills and occasionally rising into mountains.

OBJECTS OF INTEREST.

France is a very interesting country historically. Nearly every place contains something of interest to the traveler. The country is diversified, and in general the aspect is very pretty, but does not abound in many of the grand and sublime objects in nature. The peninsula of Brittany in the north-west is hilly and rugged, and celebrated for its fine scenery. The waters of the mineral springs at Vichy, in addition to their great celebrity for medical properties, have the property of petrifying, covering with stone whatever is subjected for a considerable time to their action. A large business is carried on here in producing petrified or stone-covered articles of various kind, etc.

Mount Cenis, on the boundary between France and Italy, is noted for its tunnel, the second largest in the world, about seven miles long. *Mount Blanc*, the highest peak of Europe, is visited by thousands of tourists yearly.

RIVERS.

6. France is a well-watered country. The banks of the river are studded with cities, and bounded by rich and cultivated lands. The following are the principal streams:

Name.	Length. Miles.	Miles of Navigation.	Remarks.
Seine . . .	500	350	Its mouth is seven miles wide, while at Paris it is less than one-tenth mile wide.
Rhone . . .	650	360	It passes through a very rich and beautiful country with extensive vineyards.
Loire . . .	645	450	Its upper course is a romantic mountain torrent. Its broad plains called "The Garden of France."
Gironde . .	50	50	Subject to a heavy tide called a bore.
Garonne . .	384		Navigation is difficult.
Dordogne .	200	167	Formed by the Dor and Dogne.
Meuse . . .	550	430	At one place it disappears under ground for four miles.
Moselle . .	328	200	Has a very tortuous course.

SOIL.

7. France may be called a fertile country, though the soil varies. There are extensive heaths along the Bay of Biscay. There are large sandy tracts called *landes*, producing nothing but broom, heath and juniper.

CLIMATE.

8 The climate in the north is moist. In the south the climate is delightful. It is sometimes called "sunny France." The harvests take place in June and July, and the vintage in September. The southern portions are sometimes visited by the *mistral*—hot, burning winds from Africa, which often do great damage to the grape and other crops.

Mean temperature of Paris 51.2° ; of Marseilles $59\frac{1}{2}^{\circ}$.

VEGETATION.

9. Oak, birch, elm, and ash are found in the forests. Apples, pears, plums are cultivated in the north; peaches, figs, olives, oranges, and lemons in the south. Wheat, rye, maize, potatoes, hemp, tobacco, sugar-beets, buckwheat, barley, are important crops. Nowhere in the world is the grape cultivated more extensively and successfully than in France, the annual yield of wine being 2,200,000,000 gallons, besides the raisins, etc., made from them. More than four and one-half per cent. of all France is vineyard, occupying 7,000,000 persons. Of late years the vine has been much injured by the *phyllaxera*. The farms of France are small, being on an average less than five acres each.

ANIMALS.

10. The domestic animals are cattle, sheep, horses, mules, asses, swine, and goats. Bears, wolves, wild boars, the ibex, and chamois are found in the remote mountains. The fox, otter, wild cat, marten, squirrel, quail, and partridge are known in different districts. Scorpions are common in the south.

MANUFACTURES.

11. France stands unrivaled in the manufacture of silk. After silk, follow cotton, woollens, tapestry, carpets, linens, fine muslin, gauze, lace, and porcelain. Other manufactures are large quantities of beet-root sugar, paper, leather, hats, hosiery, and many kinds of wares made of iron, steel, brass, glass, and flint.

The French especially excel in the manufacture of articles requiring taste, ingenuity, and delicate manipulation.

MINERALS.

12. Coal is abundant in the north, but does not compare with that of England in proportion to the area. Silver, iron, cobalt, etc.,

also abound. The country is well supplied with building stones. Marble, granite, porphyry, alabaster, and good sand stone abound in nearly all the mountains. There are about 250 mineral springs, many of them are celebrated.

COMMERCE.

13. France ranks next to Great Britain in the amount of her commerce. In the year 1881 her exports amounted to \$680,000,000, and the imports to about \$981,500,000. The leading exports were manufactured silk and wool, flour, grain, wines, leather, small ware, refined sugar, and confectionery; while the imports were silk, wool, cotton, animals, grains, hides, wool, and lead.

15. The public roads of France are excellent; the canals are seventy-nine in number, with an aggregate length of 3,000 miles. In 1885 there were nearly 20,000 miles of railway in operation. Public buildings and bridges are numerous, and many of them impressive. France has 5,500 miles of river navigation, and steamboats ply constantly. There are 14,400 ships, of which over 600 are steamers.

INHABITANTS.

15. The French numbered 37,670,000 souls at the time of their last census, 1881. They are mostly descended from the ancient Celts, mixed Burgundians in the center, Greeks at Marseilles, Franks, Goths, and Normans at the north. The inhabitants, especially at Paris, are distinguished for delicacy, polish, refinement, elegance, and ease. Gayety, wit, and intelligence, with decency and politeness of manners, are common to all classes of the French. The women in France have a great influence on the character of society, and are distinguished for their grace and fascination of manners, rather than for personal beauty. In the country they engage with the men in the labor of the field. The French are much more lively and excitable, more impetuous and more fond of amusement than either the English or the Germans. No nation has produced greater military geniuses, or contributed more to the progress of learning and science.

OCCUPATION.

16. More than one-half are engaged in agriculture; about one-fourth in manufacturing, and one-tenth in liberal arts and professions.

LANGUAGE.

17. The French is the national language, but there are some dialects spoken in several places.

RELIGION.

18. All religions are equal in the eye of the law, and Protestants receive their share of support from the state; but more than ninety-five per cent. of the population are Roman Catholics.

EDUCATION.

19. The illiteracy is still quite large. Since the institution of the republic great attention has been paid to the general education. The higher institutions are of the first order. The university of Paris is the oldest in Europe. It has existed for about 1,100 years, and had, at one time, more than 25,000 students; at present there are from 7,000 to 8,000 students in attendance. The national library contains about 500,000 volumes. There are many other large libraries scattered throughout the country.

GOVERNMENT.

20. France is divided into eighty-seven departments, which are subdivided into many divisions. The executive power of the nation is vested in a president, elected for seven years by a joint assembly of Senate and Chamber of Deputies. Every Frenchman over twenty-one years old has a right to vote.

ARMY AND NAVY, ETC.

21. The standing army of France consists of 502,000 men; every Frenchman serves his country five years of active service. The navy has 258 vessels.

FOREIGN POSSESSIONS.

22. The leading foreign possessions are Algeria, Senegambia, Gold Coast, French Cochinchina, New Caledonia, French Guiana, Loyalty Islands, and several of the West Indies.

CITIES.

23. *Paris*, the capital, is perhaps the most splendid city in the world. It abounds in magnificent edifices, palaces, promenades, public gardens, fountains, and places of amusement. The houses are for the most part built of freestone, obtained from quarries beneath the city. The vast excavations called the catacombs, have been used as a depository of the bones of the dead, where they are arranged in a fanciful manner. Paris is queen of the fashionable world; an immense trade is carried on in articles of fashions. The city was named after Paris, who caused the Trojan war. *Lyons* is renowned for its rich silk goods, and gold and silver stuffs; *Marseilles* as a sea-port; *Bordeaux* for its wines; *Brest* and *Toulon* as naval stations; *Havre* for its commerce; *Rheims* for its ancient church, where the French

kings were formerly crowned. *Orleans*, *Tours*, and *Angers* are places of historic interest. *Montpellier* is a famous resort for invalids.

POPULATION OF CITIES.

Cities.	Population.	Cities.	Population.
Paris	2,269,000	Nantes	122,000
Lyons	377,000	Rouen	105,000
Marseilles	360,000	Havre	92,000
Bordeaux	221,000	Brest	67,000
Lille	163,000	Rheims	81,000
Toulouse	132,000	Toulon	71,000

HISTORY.

24. It is probable that France was inhabited for 2,000 years before the Christian era; but for many centuries the people were few in numbers, and of wild and savage habits.

About fifty years B. C. Cæsar conquered Gaul, the Ancient France, after nine bloody campaigns. The country was transformed by contact with the customs and laws of Rome. The Gauls ceased to be savages, and the country was marked with cities, villages and temples. The mixture of the two races, the Italian and the Celtic, is shown in the French language, which is a compound of the Celtic and Latin tongues, sprinkled, however, with the dialects of the tribes. For 500 years the country remained under Roman rule. In the fifth century the Roman Empire was crushed, and Gaul was overrun with Burgundians, Visigoths, and finally by the Franks, from the borders of the Rhine. Clovis became king in 481, and thus the kingdom of France was established. In 496 Clovis was baptized at Rheims, and thus Christianity was established in the country. The Carolingian Dynasty began in 741. In 768 Charlemagne, the greatest warrior and statesman of the age, became emperor of France. By him the feudal system was introduced, and the Catholic religion firmly fixed. With him French civilization began. He extended his kingdom until it included a part of Germany, and the greater portion of Italy, besides Holland, Belgium, and a part of Spain.

The Carolingian Dynasty came to an end in 1017, when the Capetian Dynasty began with Hugh Capet. The crusades made a great excitement in France, and here the institution of chivalry attained its highest glory. During the reign of Charles XI., the celebrated massacre of St. Bartholomew's eve occurred, August 24, 1572. A hundred thousand persons were sacrificed in this ruthless butchery. In 1783 the famous French Revolution broke out. During the agitation which followed, the king, Louis XVI., and the queen, Marie Antoinette, perished on the scaffold. All Europe was involved in a bloody conflict. Napoleon Bonaparte at last gained the ascendancy. In 1804 he was declared hereditary emperor of France.

The whole world trembled at his power and genius, but on the 18th of June, 1815, he met his final defeat at the hands of the allied armies under the Duke of Wellington. He was banished to St. Helena, where he died in 1821. In 1848 France for the first time set up a republican government; but this was terminated in 1851 by Louis Napoleon, who set himself up as emperor. He was overthrown in the Franco-Prussian war of 1870, when a republic was instituted a second time, which is still the government of the nation. The present executive is Francois P. Jules Grevy, elected in 1879.

REPUBLIC OF ANDORRA.

25. This is a neutral territory, on the southern slope of the Pyrennes, of 150 square miles and 12,000 inhabitants. They are devoted Catholics, and are

generally ignorant. The inhabitants, mostly shepherds, speak the Catalan language. It contains many rich mines of iron, and ore of lead. The soil is unproductive. This little republic dates its independence back to Charlemagne, 790. It is considered under the protection of France and Spain.

CHAPTER XX.

BELGIUM.

MAP EXERCISES.

Bound Belgium. Between what parallels does it lie? between what meridians? What rivers flow through Belgium? Describe them. What mountains in the south? Locate Brussels, Antwerp, Ghent, Liege, Waterloo. What is the difference of time between Brussels and London? Trace a water route from Antwerp to Liverpool; to Marseilles; to Pittsburgh.

DESCRIPTION.

POSITION.

1. Belgium is situated on the North sea, in the north-western part of Europe. It has an area of 11,373 square miles.

COAST.

2. There is not a great extent of sea coast, but there are several valuable harbors. The Scheldt river is navigable for 100 miles, and the Meuse to the point where it enters the kingdom. The inland navigation is facilitated by canals, of which there are nearly 400 miles.

SURFACE.

3. The coasts are flat, requiring dikes to protect them from the sea. The center is undulating; the south-east mountainous, being crossed by the Ardennes mountains.

Here "numerous torrents descend with rapidity, and becoming confined within rocky, precipitous, woody banks, often furnish, if not the grandest, the most picturesque and enchanting of landscapes. Fossil animals are numerous. The limestone caverns through which the river Lesse has made its way are remarkable natural curiosities."

SOIL.

4. The soil is generally fertile, and nowhere is the land cultivated with more skill than in Belgium. It is like an immense garden.

CLIMATE.

5. The climate is cool and humid. The mean annual temperature is about 50° Fahr.

AGRICULTURAL PRODUCTIONS.

6. Among these may be mentioned wheat, rye, oats, flax, hops, potatoes, beans, hemp, and tobacco. Belgium is celebrated for its horses; horned cattle are numerous, and an immense number of hogs are raised in the forests which cover the mountains. Farms are generally quite small and less than one-thirteenth is uncultivated.

MINERALS.

7. Belgium, next to England, produces more coal than any other country in Europe. It is also rich in iron, zinc, lead, manganese, and marble. The country also abounds in quarries of limestone sandstone, granite, and roofing slate.

COMMERCE.

8. The country is favorably situated for commerce. Among the exports are included coal, iron, linen goods, woollens, fine paper, machinery, fire-arms, laces, ribbons, hats, etc. Their value in 1880 was \$428,000,000. The imports for the same time amounted to \$452,000,000, and consisted of wool, cotton, grains, hides, coffee, timber, sugar, petroleum, etc. There are about 3,000 miles of railroad in operation.

MANUFACTURES.

9. This country has extensive manufactures of cotton, linen, paper, laces, ribbons, and carpets. The carpets and fine linens have a world-wide reputation. It is said that more than 13,000 hands are employed in making nails.

INHABITANTS.

10. The Belgians are in part Flemings, of German origin, and part Walloons, descendants of the ancient Belgae. The latter live along the borders of France, and resemble the people of that country. The people are distinguished for honesty and independence, with a mixture of gayety, politeness, and a love of show. Beer-drinking is carried on to a great extent.

LANGUAGE.

11. The Flemings, who are the most numerous, speak the Dutch language, but the educated people speak the French, and the Walloons speak a corruption of the French, called the Patois.

EDUCATION.

12. There are universities at Ghent, Liege, and Brussels. There are many superior schools in different parts of the country. Primary

instruction is not so well provided for as in our own country. About thirty per cent. are unable to read and write. The conservatory of music at Brussels is one of the most famous in the world. Chimes of bells are numerous, and in the larger towns are almost constantly to be heard. A good bell-ringer is sure of a high salary.

13. The Roman Catholic is the national religion; less than one-half per cent. are Protestants. The Catholics are very strict in their religious observances.

GOVERNMENT.

14. Belgium is a kingdom. The legislature is composed of two houses—a senate and the chamber of representatives, who are elected by the people. The press is free, and all the people are equal in the eye of the law.

CITIES.

Names.	Population.	Remarks.
Brussels . .	377,000	Capital of Belgium. Its library contains 234,000 volumes. Brussels is remarkable for the number and richness of its ancient buildings.
Antwerp . .	198,000	The appearance of the city is exceedingly picturesque. Nearly all the streets are tortuous and irregular.
Ghent . . .	131,000	Celebrated for its cotton manufactories and for its large citadel. Treaty of peace was made in 1814 between the United States and Great Britain.
Liege . . .	135,000	Liege is the Birmingham of Belgium, and an important railway center.

Waterloo, a small village, is celebrated as the place where the allied forces under the Duke of Wellington, gained the victory over the French under Napoleon Bonaparte.

HISTORY.

16. When Cæsar invaded Gaul, the provinces of East and West Flanders and Antwerp were partially overflowed by the ocean. The soil was so marshy that an inundation or tempest overturned whole forests, which are still found imbedded in the soil. The sea and river had no defined limits, and the earth no solidity. Many of the inhabitants lived on mounds of sand, or in houses built on stakes or posts. Cæsar subjugated this country, and the people became amalgamated with the Romans, adopting their manners and language. In the fifth century Christianity was introduced. In the fifteenth century Belgium came under the Duke of Burgundy. At this time the idea of a Belgic nation seems to have been established. In 1477 Belgium passed under the dynasty of Austria, and in 1519 descended to Charles V., king of Spain, and emperor of Germany. The wealth of the people at this period seems to have been immense. Belgium remained under the Spanish dominion till the victories of the Ramilies, gained by the Duke of Marlborough in 1706, when it again passed to Austria. It has been connected with Holland from the time of the Duke of Burgundy, but it was now separate; while Holland, having attained its independence, continued to flourish as a republic. The Belgium provinces remained

under Austria till they were conquered by the French. It was annexed to the French Republic in 1795. In 1815 it was made a part of Holland by the Congress of Vienna. In 1830, incited by the revolution of Paris, the people rebelled, and, after a brief struggle, achieved their independence. Leopold II. is the present king. The population at present number about 5,477,000, or about 460 to a square mile, the most densely populated country on the globe.

CHAPTER XXI.

HOLLAND.

MAP EXERCISES.

Bound Holland. Between what parallels does it lie? Between what meridians? Describe the rivers of Holland. What large inlet from the North sea? Where is Texel island? Name and locate its capital, and give its latitude and longitude. Locate Amsterdam, Rotterdam, Haarlem, Utrecht. In what direction is The Hague from London, Paris, Brussels, Geneva, Amsterdam, Berlin, Copenhagen?

DESCRIPTION.

EXTENT.

1. Holland is 150 miles long and 120 miles broad. Area, 12,680 square miles.

SURFACE.

2. Holland is generally level. Seventy-eight miles of the coast are protected by natural downs, or sand banks, thrown up by the sea, and fixed by plantations of sea grass. In other parts the sea is kept out by artificial dikes, some of which are sixty feet high. In some places along the sea the country is sixteen feet below the sea-level. The streams are also kept in their channels by huge embankments. Marshes are numerous and some are extensive.

Efforts are now being made to drain the Zuyder sea, which will add considerable area to Holland. This sea, prior to 1282, was much smaller than now; in that year the dikes gave way, when seventy-two villages were submerged and 100,000 people perished.

SOIL.

3. The soil is argillaceous, without minerals except bog iron. The southern provinces are most fertile.

CLIMATE.

4. The climate of Holland is moist and mild for the latitude, but is very changeable. Violent winds are frequent and heavy sea-fogs are driven in, which sometimes injure vegetation.

AGRICULTURAL PRODUCTS.

5. The country is best adapted to grazing, and in the dairy products is the main source of wealth. The horses are noted for their size and strength. Garden products are largely cultivated, not only for home consumption but also for their seeds, which are exported to almost all countries. The care of poultry and bees is actively carried on. Some grains are also raised, such as wheat, barley, rye, oats, buckwheat, together with flax, tobacco, and sugar beets. Horticulture receives great attention. The fisheries along the coast are profitable.

MANUFACTURES.

6. These are extensive and important. The linen and paper hold the first rank. The quantity of butter and cheese manufactured is simply amazing.

Other manufactures include woollens, cottons, velvet, distilleries, and earthenware. The prevailing high winds, absence of coal, and lack of water-power have led to the use of windmills as motive power.

COMMERCE.

7. The commerce is carried on chiefly with Great Britain, Germany, Belgium, the United States, and Java. The exports (\$233,000,000) consist chiefly of butter, cheese, cattle, horses, flower bulbs and seeds, linen goods, paper, and earthenware. The exports (\$339,000,000) include grains and colonial produce. Numerous canals intersect the country in all directions. There are besides about 1,500 miles of railroads.

INHABITANTS.

8. These number 7,061,000 (1880). The Hollanders, or *Frisi*, occupy the country of the ancient *Frisi* and Batavia. The people are distinguished for frugality, neatness and industry; the women also for their beauty. They are of a cold temperament, but when aroused have as much ardor as any people.

They are grave and heavy in appearance, and are of a domestic and quiet disposition. They prefer gain to glory, but are still honest in their dealings.

They are slow in their movements, and *Dutch speed* is an ironical proverb. Dancing is a common amusement, and skating is followed by both sexes in winter.

EDUCATION.

9. Holland ranks among the most civilized and enlightened portion of the globe. Education is general. The universities at Leyden, Utrecht and Groningen are renowned. The people speak a German dialect, called the low Dutch, or simply the Dutch.

RELIGION.

10. The great majority of the people are Protestants of various denominations; the Lutheran and Calvinistic predominating. There are also many Roman Catholics as well as Jews.

GOVERNMENT.

11. This is a constitutional monarchy. The entire executive function is vested in the king. The legislative body consists of two houses; the members of the upper house are elected by the wealthy, and those of the lower house by all the citizens. Standing army, about 61,000 men.

FOREIGN POSSESSIONS.

12. The following are the leading foreign possessions: Dutch Guiana, Java, Sumatra, Celebes, Moluccas, large portions of Borneo, and New Guinea, and the Orange River Free State.

CITIES.

13. The following are the leading cities:

Name.	Population.	Remarks.
Amsterdam . .	372,000	"The dike or dam of Amsel." Renowned for its educational institutions, and the manufacture of prints. It has 290 bridges.
Rotterdam . .	173,000	A great commercial city. The "Great Church" contains one of the finest organs in the world, having ninety stops and 6,500 pipes. Many quaint gabled edifices.
The Hague . .	138,000	The name Hague signifies a wood or grove, said to have had its origin in an ancient hunting place in a grove. The royal library contains 100,000 volumes. There is a large national museum; also many learned associations and private galleries of art. A very beautiful city.
Utrecht	69,000	A good situation for trade. There is a large Cathedral, whose tower is 386 feet high.
Groningen . .	47,000	It contains a university, large warehouses, and extensive trade.
Leyden	41,000	It has numerous churches, and its university was one of the most renowned in Europe.
Haarlem . . .	38,000	Noted for its stupendous organ of 8,000 pipes. Its manufactures of cotton, linen, silk, velvet, carpets, laces and ribbons. The center of the Dutch trade in flowers and flower seeds.

HISTORY.

14. The early history of this country is in common with that of Belgium. In the year 1572, after a struggle with Spain, unequalled for duration and sacrifices, the independence of the republic—styled the Seven Provinces—was acknowledged. Except that it was sometimes darkened by internal feuds, the half century that followed was the brightest in the Dutch annals. The commerce of Holland attained to an unrivaled magnitude, and she extended her dimensions over some of the most valuable provinces in the east and in the west. She contended successfully with Louis XIV., and was justly regarded as one of the bulwarks of the Protestant faith. From the death of Louis XIV. down to the French revolution the influence of Holland gradually declined, not so much from the decay of her own resources, as for the growth of commerce and manufactures in the neighboring states. In 1806 she was erected into a kingdom for Louis, brother of Napoleon, and on the downfall of the latter she was united with Belgium and formed a kingdom. But the union was never cordial, and the connection between them was dissolved by the revolt of Belgium in 1830. The present limits of Holland were defined by treaty in 1833. The ruling sovereign is William III. Holland, now generally called Netherlands, means “marshy ground.”

CHAPTER XXII.

SPAIN.

MAP EXERCISES.

Locate the following.

CAPES.

Ortegal, Finisterre, de Penas, de Gata, Nao, Creux, Palas, Trafalgar.

MOUNTAIN RANGES.

Cantabrian, Pyrenees, Sierra Nevada, Sierra Morena, Sierra Guadarama.

MOUNTAIN PEAKS.

Mulhacen, Maladetta, Perdu.

RIVERS.

Minho, Duero, Tagus, Guadiana, Guadalquivir, Guadalaviar, Ebro.

CITIES.

Madrid, Saragossa, Barcelona, Cadiz, Valencia, Cartagena, Malaga, Gibraltar, Palos, Grenada, Seville, Valladolid, Bilbao.

MISCELLANEOUS.

Bound Spain. Between what parallels of latitude does it lie? Between what meridians of longitude? Give latitude and longitude of

Madrid. What is the time at Madrid when it is ten o'clock at Rome? Trace a water route from Saragossa to Madrid; to Lyons; Athens; to Aberdeen; to Orleans.

DESCRIPTION.

CHARACTERISTICS.

1. Spain, often called the *Peninsula*, is noted for its healthful climate, its romantic scenery, and its rich productions.

EXTENT.

2. The greatest length is 620 miles, and the greatest breadth 540 miles. Area, 193,000 square miles.

SURFACE.

3. Spain, occupying the greater part of the peninsula at the southwestern extremity of Europe, is more diversified in its surface than any other country of equal extent in this quarter of the world. The interior is a vast table-land, occupying one-half the whole area, and is nearly surrounded by mountains. The *Plateau of Castile* has a mean elevation of 2,300 feet.

MOUNTAINS.

4. Of these there are five chains, called *Spanish Sierras*. The *Pyrenees* are on the north, between Spain and France, and have a mean elevation of over 11,000 feet. The *Cantabrian* are to the west of them, some of whose peaks measure 11,000 feet. The *Sierra Nevada* are in the south; their highest peak, *Mulahacen*, 11,658 feet high. The *Toledo* and *Guadarama* are the interior.

COAST.

5. The coasts, having an extent of 1,800 miles on the Atlantic and Mediterranean, are but little indented. The chief capes are *Ortegal*, *Finisterre*, and *Trafalgar*, on the Atlantic, and *de Gata*, *Nao*, *Creux*, and *Palos*, on the Mediterranean.

ISLANDS.

6. The *Balearic* islands, consisting of *Majorca*, *Minorca*, *Ivica*, and *Framentera*, with several smaller ones, lying about one hundred miles from the coast in the Mediterranean, belong to Spain. Area, 2,200 square miles. These islands produce oranges, olives, wines, etc.

OBJECTS OF INTEREST.

7. *Montserrat*, a detached eminence of the *Pyrenees*, thirty miles north-west of Barcelona, consists of a cluster of sharp rocks, 3,300 feet

high, always capped with clouds. The scenery here is remarkably grand. The *Cataract of Gavarnie*, in the Pyrenees, is more than 1,300 feet high. Besides these there are many objects of great grandeur and interest to the student and tourist. In external beauty few countries in the world equal Spain.

SOIL.

8. The greater part of the country, except the mountain ridges, is fertile, and covered with a luxuriant vegetation. The land is favorable to the production of a greater variety of fruit than any other country of Europe. Spain may be regarded as naturally the most fruitful country in Europe.

CLIMATE.

9. On account of its latitude, the cold is never excessive, even in the northern parts. In the south the heat is tempered by the sea breezes. The great elevation of the interior causes the climate to be much cooler than it would otherwise be. The provinces along the Mediterranean are the paradise of the kingdom. An everlasting spring seems to reign in this delightful district. The sky of Andalusia is pure azure and gold. The inhabitants of Seville affirm that a day was never known when the sun did not shine upon their city. The *Gallego* is a piercing cold wind which sometimes sweeps from the north-west; the *Solano*, a south-west wind from Africa, is so hot as to relax the human system, and produces giddiness and inflammation.

RIVERS.

10. The following are the chief rivers of Spain:

Names.	Length. Miles.	Miles of Navigation.	Remarks.
Ebro	400	150	Navigation difficult on account of rapidity and rocks in the bed.
Minho	130	50	
Tagus	540	200	Navigable to Alcantas.
Duero	400	150	Navigable to Spain. Course rapid and impeded by rocks.
Guadalquivir . .	280		Navigable for large vessels to Cordova.
Guadiana . . .	380		Flows for quite a distance under ground.

MINERALS.

11. Spain supplied the ancient inhabitants of Europe with the greater part of the precious metals they possessed, but her mineral products are small at the present day. Iron, copper, lead, and quicksilver are abundant; of the latter those at Almaden for a long time were the richest in the world. Spain is the first country in the world in the production of lead, the amount being 120,000 tons annually;

next the United States, 100,000 tons; then Germany, 90,000 tons. Coal, rock-salt, tin, zinc, and arsenic also exist. Mineral springs are numerous.

FOREIGN POSSESSIONS.

These include Cuba, Porto Rico, Canary, Balearic, Philippine, Caroline, Ladrones, Guinea, and a few other small islands.

VEGETABLE PRODUCTIONS.

12. Spain is a beautifully picturesque country. It exhibits an alternation of mountain ridges and wide plains, everywhere watered by rivers and small streams. The hills are covered with vineyards, and the valleys display the most luxuriant vegetation. The southern part looks like a garden in perpetual bloom.

The mountains are covered with pine forests. The cork is a well known tree. The chief crops are wheat, maize, barley, rice, hemp, and flax.

The fruits are the grape, date, orange, banana, fig, citron, prune, and almond.

ANIMALS.

13. The plains and mountains abound in game. The wild boar, the bear, and various kinds of deer are found in the mountains. Hares, rabbits, partridges, flamingoes, buzzards, and the wolf exist in various parts. The chamois and lynx find shelter in the Pyrenees. Goats are abundant in the table-lands. The domestic animals are all of a superior order. The horse, ass, mule, sheep, and cattle are carefully reared.

MANUFACTURES.

14. The manufacturing interests, formerly flourishing, have greatly declined. Saltpetre, gunpowder, tobacco, porcelain, and glass are made by the government. The other manufactures include silks, cottons, woollens, leather, cutlery, etc.

COMMERCE.

15. Considering the extent of coast line, number of harbors, natural products, Spain possesses greater natural advantages than any other European country. The imports amount to \$88,660,000 annually, and consist of colonial goods, dried fish, salted provisions, butter, cheese, rice, cotton and woollen goods, cutlery, glass, and the like. In the same year (1880) the exports were \$102,000,000, and included wines, brandy, wool, oil, fruits, iron, lead, and mercury. Nearly one-half of the commerce is with Great Britain.

INTERNAL IMPROVEMENTS.

16. There are no good roads in Spain, except those about Madrid; there are few wheeled carriages, and nearly all the goods are trans-

ported on the backs of mules. There are 6,000 miles of railway in operation, and 9,000 miles of telegraph. There are a few canals.

INHABITANTS.

17. The Spanish nation is derived from several races, the Celtic, Roman, Gothic, and Arabic. The distinctions of character in the different provinces is striking. In general the Spaniard is temperate, honest, and devout. The upper classes are grave, the lower gay, witty, frugal, good humored, and courteous. Dancing and bull-fighting are favorite amusements. The food is meagre; chocolate is the common drink; milk, butter, and cheese are but little used. The wines are drunk by all classes. The quaint and odd styles of dress are being rapidly displaced by styles of the French. The whole population is 16,333,000.

OCCUPATION.

18. Agriculture is the leading occupation, though performed very imperfectly. Others are engaged in commerce, manufacturing, and mining. Sardine fishing is extensively carried on.

LANGUAGE.

19. The Spanish language is a mixture of Latin, Gothic, and Arabic elements, and is remarkable for its dignity.

EDUCATION.

20. Education is not generally diffused but is improving. There are about 1,000,000 children in the schools; the colleges number about sixty, with 15,000 students. The most famous Spanish writer is Cervantes, the author of "Don Quixote." Calderon and Lope de Vega excelled in dramatic literature, and Ercilla in poetry.

RELIGION.

21. The national religion is the Roman Catholic, but all the sects are tolerated. There are many monasteries and hermitages.

CITIES.

22. *Madrid*, the capital, on the Manthanares, a small branch of the Tagus, is a magnificent city. It has the largest art gallery in Europe. *Cadiz* is the oldest city in Europe, being founded by the Phenicians 1100 B. C., and is a great center of commerce. *Seville* was once the residence of the Moorish kings. It contains a magnificent cathedral and some manufactories. *Grenada* is renowned for the *Alhambra*, a palace of the Moorish sovereigns. *Barcelona*, *Saragossa*, *Cordova*, and *Valencia* are interesting places. *Gibraltar* is celebrated

for its fortress, 1,400 feet high, which commands the entrance into the Mediterranean. It is in the possession of the English, and is regarded as the strongest fortification in the world. The town stands at the foot of the rock, and has considerable commerce.

Principal cities and their population:

Cities.	Population.	Cities.	Population.
Madrid	398,000	Cartagena	76,000
Barcelona	249,000	Grenada	76,000
Valencia	143,000	Cadiz	65,000
Seville	133,000	Palma	58,000
Malaga	116,000	Valladolid	52,000
Murcia	92,000	Cordova	50,000
Saragossa	85,000		

HISTORY.

23. The earliest inhabitants of Spain, like that of Gaul and Britain, were of the Celtic race. The country was called Iberia by the Greeks. The Phenicians were the first traders, and the Carthaginians followed soon after, founded colonies and wrought silver mines. The Romans conquered portions of it and finally wrested it from Carthage. In the time of Augustus, Spain, including Portugal, had become a Roman province, the people quietly submitting to the government, and adopting the Roman language, manners, and customs. Several tribes of the Goths rushed into the territory and founded the Gothic Monarchy 419 A. D., under Ataulph. The Saracens, the successors of Mohammed, finally overran the country, overthrew the Gothic kingdom, and established the Saracen or Moorish empire, 714 A. D. They now crossed the Pyrenees, and appeared to overrun all Europe, when they were met upon the plains of Aquitaine by Charles Martel, and defeated in one of the bloodiest battles ever recorded in history. They still kept themselves in Spain till 1492, when the Moorish kingdom, reduced to the single province of Grenada, was conquered. The Spanish monarchy now extended to every part of the peninsula. Columbus discovered America in 1492, and Spain entered upon the most brilliant era of its annals. Her colonies were of such vast extent that the sun was said never to set upon her dominions. Charles V. became king of Spain in 1516, and in two years was elected emperor of Germany. His son Philip became his successor in 1556. This gloomy bigot was husband of Queen Mary of England, and it was he who sent the Invincible Armada, which proved so abortive, in the time of Queen Elizabeth. From this period Spain gradually declined. She has lost most of her foreign possessions, and has sunk to a third-rate power. The present incumbent is Alfonso XII., who came upon the throne in 1874, at the age of seventeen years.

CHAPTER XXIII.

PORTUGAL.

MAP EXERCISES.

What cape at the south-east extremity? What three rivers empty into the Atlantic? What city at the mouth of the Tagus? At the mouth of the Duero? Where is Coimbra? Bound Portugal. Give its latitude and longitude; also that of the capital. In what direction is Lisbon from Madrid? from London? from Paris? from Dublin?

Trace a water route from Lisbon to St. Petersburg; to Dantzic; to Quebec. By the scale of miles what is the distance from Lisbon to Madrid? to Paris? to Morocco? to Rome?

DESCRIPTION.

POSITION.

1. Portugal is a small kingdom between Spain and the Atlantic Ocean.

EXTENT.

2. The length from north to south is 356 miles; from east to west, 150 miles. Area, 34,595 square miles.

COAST.

3. The coast for 500 miles is occasionally bold, but is mostly low and marshy. There are about twenty harbors.

SURFACE.

4. The interior of Portugal is generally mountainous. The *Sierra Estrella* is the principal range; its culminating point is upwards of 7,500 feet above the sea-level. Both north and south of this are fine plains watered by the rivers Minho, Tagus, Duero, and Guadiana. There are no lakes, but several salt marshes.

OBJECTS OF INTEREST.

Portugal in its natural beauty is scarcely excelled. The country is in general mountainous and very beautiful, but nowhere of such unrivaled beauty as at Cintra, about fourteen miles north-west of Lisbon. Its climate is also one of the most delicious in the world, and is the place where the Convention of Cintra was signed in 1808, by which the French were allowed to leave the country unmolested.

SOIL.

5. The soil is naturally rich, but husbandry is conducted in a slovenly manner.

CLIMATE.

6. The climate is mild and healthful, the great heat being tempered by the proximity to the sea. The season of drought occurs during the months of August and September, but during the winter deluges of rain fall, hurricanes and earthquakes are not unfrequent.

AGRICULTURAL PRODUCTIONS.

7. Grain, hemp, rice, olives, oranges, lemons, and figs are culti-

vated with success. The making of wines is a most important industry; the best is made in the valley of Duero, termed "port wine." There are extensive forests of oak, chestnut, and cork. The mulberry yields large quantities of silk. Mules and asses are the chief beasts of burden. Cattle, sheep, goats, and hogs are numerous.

MANUFACTURES.

8. The manufactures are becoming more important, especially in the large towns. Among the articles manufactured may be mentioned arms, woolen cloths, porcelain, earthenware, prints, lace, cotton, copper and tin ware, corks, confectionery, jewelry, and glass.

COMMERCE.

9. More than one-half of the commerce is carried on with Great Britain. The export trade amounted to \$19,900,000; and consists of the products of the soil and some manufactures. They import wheat, rye, barley, provisions, and articles of manufacture, chiefly British. The value of the imports is \$27,000,000.

INTERNAL IMPROVEMENTS.

10. There are but few passable roads. There are about 1,000 miles of railroad, and 3,000 miles of telgraph in operation.

INHABITANTS.

11. The Portuguese are of the same origin as the Spaniards; but they formed an independent nation and a distinct language. They number 4,349,000 souls.

EDUCATION.

12. Education in Portugal is in a very low state. There are several colleges, normal schools at Coimbra. Elementary schools are numerous. The chief name in Portuguese literature is that of Camoens, the poet, author of "Lusiad."

RELIGION.

13. The Roman Catholic is the established religion; Protestantism is almost unknown.

GOVERNMENT.

14. The government is a hereditary constitutional monarchy. The legislative function is vested in an upper and lower chamber. The country is divided into six provinces. The standing army numbers about 18,000. The present chief of Portugal is Louis I.

COLONIES.

15. The following comprise some of the principal dependencies of Portugal: The Madeira, Azore, Cape Verde, Timor, Mozambique, Angola, Benguela, the islands of the Gulf of Guinea, and several small districts of India.

CITIES.

16. *Lisbon*, the capital, is situated at the mouth of the Tagus river. On approaching it, it appears like a splendid city, but the streets are, in fact, narrow and ill paved, and the houses gloomy. Every part is so filthy that the air is filled with the most disgusting effluvia. Various kinds of vermin and insects torment the inhabitants. In the year 1755 the city was destroyed by an earthquake, and 60,000 of the inhabitants perished. The environs of the city are exceedingly beautiful. The other principal towns are *Coimbra*, noted for its university, and *Oporto*; renowned for its trade in wines, oranges, and lemons, *Setubal*, *Braga*, *Funchal*, and *Elvas*.

The following is the population of the larger cities:

Lisbon	246,000	Oporto	116,000
Funchal	21,000	Braga	20,000
Coimbra	19,000	Bonta Deleada	18,000
Setubal, or St. Ubes	16,000	Elvas	13,000

HISTORY.

17. The early history of this country is in common with that of Spain. Portugal, as a nation, had its origin in 1139 A. D., when Alphonso I. won a victory over the Moors, and was crowned king by the soldiers on the field of battle. In 1348 one-half of the inhabitants died of plague. During the fifteenth century, under John I. and his sons, the Portuguese excited the admiration of the world by their military, maritime, and commercial adventures. They discovered a greater part of the southern and western portions of Africa. The Cape of Good Hope was discovered by Dias, in 1483, and in 1498 Vasca de Gama sailed around it and reached India. Brazil was discovered in 1500. At this point Portugal was one of the richest and most powerful kingdoms in Europe. Owing to the incompetency of its sovereigns it now speedily declined. In 1580 it was conquered by Phillip II. of Spain, and annexed to that country. It recovered its independence in 1668, but has continued to be an inferior power. In 1807 the French invaded the country, and the royal family fled to Brazil. The French were expelled with the aid of the British, after a bloody conflict, and the king returned in 1821, Brazil becoming independent under his son. Pedro died in 1826, and the crown was occupied by Don Miguel, his brother. The Emperor of Brazil, who was now regent of Portugal, caused him to be expelled, and placed his daughter Maria on the throne A. D. 1834. The country since has been in a disturbed state, and scarcely a tithe of her former glory remains.

CHAPTER XXIV.

DENMARK.

MAP EXERCISES.

Bound Denmark. What peninsula is occupied by it? Name and locate the largest islands. Between what parallels does it lie? Between what meridians? Name and locate its capital. Where is Aarhus, Odense, Aalborg, Elsinore? What other cities of Europe have nearly the same latitude as Copenhagen? Trace a water route from Copenhagen to Cairo; to Cleveland.

DESCRIPTION.

EXTENT.

1. The length is 200 miles and the breadth 160 miles. Area, 14,353 square miles.

COAST.

2. The coast is generally low and sandy; and on the west there are shallows and sand banks, one of the most dangerous places in the world to shipping, so that it is called by sailors the "iron coast." The eastern shore contains several good harbors, especially in the islands.

ISLANDS.

3. *Zealand* is the largest and most important of the Danish islands, its extent being 2,890 square miles. *Copenhagen* is on the east side. *Funon* contains 1,122 square miles. *Leland*, one of the most fertile of the Danish islands, contains about 460 square miles.

SURFACE.

4. The country is almost perfectly flat, some parts being below the sea-level and defended by dikes. Along the eastern coast in some places it is slightly diversified.

SOIL.

5. The soil is alluvial and excellent for pasturage. About one-third of the surface is occupied by marshes.

CLIMATE.

6. Its humidity is a characteristic feature, and storms of rains and winds are frequent.

MINERALS.

7. Denmark is particularly an agricultural country. As a grain producer it is second to England and Belgium. The potato is a large

crop, as well as peas, clover, vetches, and turnips. The usual European fruits, such as apples, pears, peaches, plums, apricots, gooseberries, and currants ripen. Horses, cattle, sheep, and hogs are raised in large numbers. Some freestone and marble exist; the people burn turf and peat instead of coal.

MANUFACTURES.

8. Manufacturing is not carried on to any great extent, owing to a lack of coal and water power. The most noteworthy is that of porcelain; there are also manufactures of locomotives and other machinery, cotton, woolen, and linen goods, and sugar from the sugar beet.

COMMERCE.

9. The commerce is carried on chiefly with Germany, Great Britain, Norway, and Sweden. The exports are grains and provisions, and in 1880 amounted to nearly \$43,000,000. The imports, \$54,000,000, include metals, coal, cotton, wool, silks, coffee, sugar, tobacco, and salt.

The internal trade is facilitated by 1,000 miles of railway and several canals.

INHABITANTS.

10. They number (1880) 1,969,000. Besides the Danes, there are many Jews, especially in Copenhagen. They still maintain their ancient reputation of being bold, hardy seamen.

EDUCATION.

11. This is compulsory, and all classes can read and write. Means are furnished to those unable to pay for instruction. There is an excellent university at Copenhagen. The people speak the Danish language.

RELIGION.

12. The Lutheran is the established religion, but there are also Jews, Baptists, Mormons, and Roman Catholics.

GOVERNMENT.

13. Denmark is a constitutional monarchy, the presiding officer taking the name king. The members of the Upper House of the Rigsdag (name of the legislature) are elected for eight years by electors; the members of the Lower House by universal suffrage.

CITIES.

14. The following are the leading cities :

Name.	Population.	Remarks.
Copenhagen . . .	273,000	"Merchant's Haven." It is one of the finest cities in northern Europe. The university library contains 260,000 volumes, and the Royal Library 550,000 volumes.
Aarhus	25,000	Seaport on the Cattegat. There are numerous manufactures, and several prominent buildings
Odense	21,000	"Odins Island." Contains a Cathedral founded in 1086.
Aalborg	14,000	"Ell Castle." It has large fisheries, and manufactures of soap, pistols, gloves, etc.

FOREIGN POSSESSIONS.

15. The foreign possessions of Denmark include Iceland, Greenland, the Faroe islands, Santa Cruz, St. Thomas, and St. Johns in the West Indies.

HISTORY.

Denmark, Norway and Sweden were formerly called Scandinavia, and were the nurseries of many of those fierce barbarians who either conquered or harassed the British islands and the coasts of France and Spain for several centuries. From this quarter came the Saxons, Angles, Jutes, and the German tribes, who established the Saxon dominion in England.

About a century before the Christian era, the inhabitants of Shetland became known to the Romans by the name Cimbri. In the middle ages, these people, with the Norwegians and Swedes, were called Normans or Northmen. They conquered Normandy in France, peopled the Faroe Isles, the Orkneys, Shetland, and Iceland, and carried their arms into southern Europe. Canute, king of Denmark, conquered in the eleventh century the whole of Norway, and nearly all England and Scotland. Under Canute Christianity was introduced into Denmark, and the progress of civilization began.

But the most brilliant era was that of Margaret, who, by the union of Calmar, placed on her head the crown of Denmark, Norway, and Sweden, in the fourteenth century. Sweden shook off the Danish yoke in the sixteenth century, and in 1815 Norway was ceded to Sweden under the dictation of the Congress of Vienna. The Duchies of Holstein, Sleswick, and Lauenburg became dependencies of Denmark in 1849. These revolted several times, and in 1864 became a part of Prussia, by a decree of the great powers which met in convention at Vienna in that year. The present king is Christian IX.

CHAPTER XXV.

GERMANY.

MAP EXERCISES.

Bound Germany. Locate the following political divisions: Sleswick, Holstein, Hanover, Pommerania, Silesia, Saxony, Bavaria, Wurttemberg, Baden, Alsace, and Prussia. Describe the Rhine, Weser, Elbe, Oder, Wartha, Vistula, Nieman, Danube, Spree. What gulf on the Baltic? Name and locate five sea-ports on the Baltic. Name four cities on the Rhine. What sea-port on the Weser? on the Elbe? Locate Berlin, Breslau, Dresden, Frankfort, Munich, Stuttgart, Metz, Aix la Chapelle, Magdeburg. What mountains are on the southern border? Give the latitude and longitude of Berlin. Between what parallels of latitude does Germany lie? between what meridians of longitude?

In what direction from Berlin is Breslau, Konigsberg, Hamburg, Cologne, Metz, Dresden? What cities on or near the meridian of Berlin? Trace a water route from Berlin to Dantzic; to Breslau; to Strasburg; to Bremen; to Paris; to Copenhagen; to Dublin. What is the difference of time between Berlin and Paris? between Hamburg and Moscow? Give length of longest day at Hamburg.

DESCRIPTION.

EXTENT.

1. The length of Germany is nearly 1,000 miles, and the greatest breadth 700 miles. Area, 208,600 square miles.

COAST.

2. Germany has about 500 miles of sea coast on the Baltic, and 200 on the North sea. It is generally low and marshy, but there are some valuable ports, generally near the mouth of some river.

SURFACE.

3. The surface of Prussia and northern Germany is generally flat. Along the Baltic there is an extensive marsh region, embracing over one million acres of uninviting barren soil. The southern part is diversified by several mountain ranges; among these are the Erz, Sudetic, and Bohemian Forest. The center is a plateau, crossed by several rivers.

LAKES.

4. There are a few shallow lakes in the north; but the most important and most interesting belong to the Alpine regions. These are generally deep basins, and surrounded by mountains as in Switzerland.

RIVERS.

5. The following are the principal rivers of Germany :

Name.	Length. Miles.	Remarks.
Rhine	960	It is navigable throughout its entire length. The river is noted for its beautiful and fertile valley.
Weser	250	Navigable to Bremen.
Elbe	550	Ships can ascend to Hamburg, but navigation is impeded by sand-bars.
Oder	550	It is navigable to Breslau.
Vistula	650	It is navigable to Cracow, 550 miles.
Nieman	500	Fifty miles of it are in Germany; an important highway of trade.
Wartha	450	The country through which it flows is flat and marshy.

SOIL.

6. This is in general fertile, but there are large tracts in the swamps and elsewhere which are unfruitful. The valley of the Rhine is the most fertile and productive portion of Germany.

CLIMATE.

7. The climate is various, but mild and healthy. In southern Germany the valleys are hot, and the winter so mild that snow lies but a few days. In the north the cold of the winter is severe, and the streams are frozen from three to four months, so that heavily loaded wagons can cross over them.

VEGETABLE PRODUCTS.

8. All kinds of grain and fruit belonging to the temperate zones are produced. Wheat, rye, barley, oats, buckwheat, and spelt are the staple cereals. Flax, hemp, tobacco, licorice, hops, rape seed, sugar beet and anise seed are also produced in large quantities. The fruits are the apple, pear, chestnut, walnut, almond, apricot. The vine is extensively cultivated in the Rhenish provinces. The Germans are excellent farmers.

MINERALS.

9. The mines are extensive and varied. They comprise gold and silver in limited quantities, iron, tin, coal, lead, cobalt, zinc, bismuth, antimony, mercury, sulphur, saltpetre, alum, etc. Germany ranks first in the production of zinc. Salt is found in nearly all the states. Of mineral springs there is a great number, and some of great

celebrity; their waters are bottled and sent to all parts of the world. Amber is found on the shores of the Baltic.

ANIMALS.

10. There are numerous forests, among which the wild boar, wolf, marmot, chamois, lynx, fox, marten, hare, weasel, eagle, vulture are found in different parts. The domestic animals are the horse, ass, mule, sheep and goat. Carp, pike, salmon, trout, herring, sturgeon, are abundant in the streams. Oysters in large quantities are taken along the coast of Sleswick and Holstein.

MANUFACTURES.

11. Germany is one of the greatest manufacturing countries in the world. The manufactures comprise woolens, linens, silks, steam engines, iron, steel, wooden ware, clocks, toys, porcelain, etc. Breweries and distilleries are numerous, and much of their products are sent to other countries. In the manufacture of astronomical and optical instruments, the Germans have gained a world-wide reputation.

COMMERCE.

12. This is large and embraces quite a variety of articles. The principal exports are wool, hops, grain, cattle, linen, yarn, hides, glass ware, steel, zinc, wine, alcohol, seeds, preserves, fruits, etc. The imports include all kinds of raw material, coffee, sugar, rice, cloth, machines, silks, and jewelry. The former in 1881 amounted to \$705,375,000, and the latter to \$972,200,000.

INTERNAL IMPROVEMENTS.

13. The numerous rivers are all navigated by steamboats. There is an excellent system of railroads and canals. Of the former there are 22,000 miles, 13,000 of which are controlled by the government. Public improvements of all kinds abound, and many of them are costly and elegant.

CURIOSITIES.

14. In the Prussian province of Saxony are the Hartz mountains, the chief elevation of which is the *Brocken*. This is the cradle of many superstitions, especially that of the "Wild Huntsman." It is also the scene of the spectral delusion called the "Specter of the Brocken." The form of a man standing upon the height is, under certain circumstances, reflected in a gigantic image upon the clouds.

South-east of Dresden, in what is called Saxon Switzerland, are groups of natural rock, rising like the pillars of an ancient ruined temple.

In Bavaria, at Gailenreith, is a remarkable cavern, with several churches, containing the bones of antediluvian animals.

The eminences along the Rhine are remarkable for their great number of ruins of ancient baronial castles, among which is the *Crag of Drachenfels*, celebrated by Byron.

INHABITANTS.

15. According to the census of 1880, Germany had 45,194,000. The greater portion of these are descendants of the ancient Teutones or Germans. There are also some Jews, Italians, Slavonians and French.

EDUCATION.

16. Germany has one of the finest school systems in the world. Education is compulsory and gratuitous.

There are 360 gymnasia, or preparatory schools, for the twenty-one universities, some of which are among the most celebrated in the world. Among these are those at Berlin, Breslau, Freiburg, Leipsic, Munich and Strasburg. Leipsic has 3,000 students and Breslau 1,000. Sixteen thousand students in all are in attendance upon the universities, and 1,800 professors are employed.

Nowhere are the arts and sciences carried to a higher state of perfection. Even Italy does not excel in musical composition and ability. Handel, Gluck, Mozart, Hayden, Mendelssohn, Beethoven, Weber, Wagner, are among the celebrated musicians which this country has produced. Every young man is expected to serve three years in the army, from the age of twenty to twenty-three years.

LANGUAGE.

17. The German is the national language, but while the same language is taught in the schools, nearly every province speaks a peculiar dialect.

RELIGION.

18. About two-thirds of the people are Protestants, the remainder are chiefly Catholics and Jews.

GOVERNMENT.

19. Germany is a constitutional monarchy, the Emperor being ruler over twenty-five states. There are four kingdoms—Prussia, Saxony, Bavaria, and Wurtemberg; six grand duchies; five duchies; seven principalities; three free cities, Lubeck, Bremen, and Hamburg; and the imperial territory of Alsace Lorraine. The legislative function is vested in two houses; the upper is called Bundesrath, and the lower the Reichstag, whose members are elected for three years by universal suffrage.

CITIES.

20. The following are the leading cities :

Name.	Population.	Remarks.
Berlin	1,315,000	The capital, and one of the finest cities in the world.
Breslau	299,000	It has a university, and a library of 300,000 volumes.
Hamburg	305,000	The greatest commercial city of the European continent.
Munich	262,000	Is celebrated for its gallery of arts.
Dresden	245,000	This city is famed for its gallery of arts. It is called the "Athens of Germany."
Konigsberg	151,000	Once the capital of Prussia. Library of 300,000 volumes.
Leipzig	170,000	Contains one of the most celebrated universities in the world. Library 350,000 volumes.
Cologne	161,000	The great Cathedral is one of the finest in the world.
Frankfort	155,000	Noted for its beautiful gardens. The birthplace of the poet Goethe.
Stuttgart	126,000	Celebrated for its collections of antiquities, and for its library of 440,000 volumes.
Hanover	140,000	This city is noted for its manufactories.
Bremen	119,000	The principal starting point for emigrants, and one of the largest tobacco markets in the world, and second commercial city of Germany.
Dantzic	115,000	It has a large commerce, and many churches.
Magdeburg	114,000	The Cathedral is the largest in Germany.
Strasbourg	112,000	Library of 400,000. The Cathedral was founded in 504; its spire is the highest in the world—466 feet.
Stettin	96,000	An important commercial city on the Baltic.
Aix la Chapelle		Celebrated for its hot baths, and for being the capital and burying place of Charlemagne.

HISTORY.

21. Germany was early the seat of numerous war-like tribes, some of which were subjugated by the Romans, while others baffled the armies of this great people. Charlemagne became master of the greater part of the country about the year 800, and founded the German Empire. This was governed by a sovereign, called emperor, who was elected by the different states. From the time of Albert V., of Austria, in 1438, to the dissolution of the empire, which took place in 1806, most of the emperors of Germany were also emperors of Austria. This dissolution or overthrow was caused by Napoleon. This was superseded in 1815 by the Germanic confederation, established by the congress at Vienna. This was an alliance of the German states for mutual protection. In 1843 the Germanic confederation was broken up by the revolution in France, which spread the revolt to Germany, but after a while most of the monarchies were restored to their former position.

The jealousies which arose between the two states, Prussia and Austria, ended in a war in 1866, which left the former victorious, and led to the formation of the North Germanic confederation as it now exists.

CHAPTER XXVI.

AUSTRIA.

MAP EXERCISES.

Bound Austria. Describe the following mountains. Carpathian, Transylvanian Alps, Erz, Forest, Sudetes, Eastern Alps, Bohemian Forest, Dinaric Alps.

Name three lakes within or on the boundary. Describe the following rivers: Danube, Theiss, Drave, Save, March, Elbe, Waag. Locate the following cities: Vienna, Buda-Pesth, Gratz, Prague, Olmutz, Lemberg, Brun, Klausenburg, Thereseinstadt, Innspruck, Trieste. Give latitude and longitude of the capital. By the scale of miles, what is the distance from Vienna to Berlin, to Trieste, to Rome, to Berne, to Warsaw? In what direction from Vienna is Prague, Lemberg, Constantinople, Odessa, Rome, Berlin, Lyons, Warsaw, Moscow, Trieste. Trace a water route from Vienna to Prague, to Trieste, to Lemberg, to Salonica, to Innspruck? What is the time of day at Paris when it is one o'clock P. M. at Vienna?

DESCRIPTION.

EXTENT.

1. The total area is 240,000 square miles, and extends from 42° to 51° north latitude, and from $9^{\circ} 35$ min. to $26^{\circ} 35$ min. east longitude. The average length of Austria is 620 miles, and the average breadth 350 miles.

COAST.

2. Austria has about 1,036 miles of sea coast on the Adriatic. Trieste is the only important sea-port.

SURFACE.

3. About five-sevenths of the surface of Austria is mountainous. There are three principal chains, each sending off various minor ranges, the *Alps*, the *Carpathian*, and *Sudetes*. The Carpathian are exceedingly bold and rugged, some of whose peaks are 8,000 feet high. There are two large plains; the *Hungarian*, embracing an area of 40,000 square miles, and the *Galician*, of 20,000 square miles. There is much picturesque scenery.

LAKES.

4. *Lake Balaton*, the largest, is forty-five miles long and ten wide, with an area of 400 square miles. Its waters are slightly bitter. *Garda* and *Constance* are on the boundary on the west. *Cirknitz* is remarkable for the alternate appearance and disappearance of its waters.

RIVERS.

5. The *Danube*, with its tributaries, drains nearly all Austria. The larger branches of the river are navigable. The *Theiss* is the largest of all, and is noted for its abundance of fish.

The following are the principal tributaries of the Danube:

Name.	Length. Miles.	Remarks.
Theiss	600	Navigable about 400 miles.
Drave	360	Navigable.
Save	550	Navigable to Kulpa.
March	180	Navigable fifty miles to Presburg.

NATURAL CURIOSITIES.

"The Iron gates of the Danube" are on the Danube river, the boundary of Roumania; they consist of a series of violent rapids, between lofty, broken rocks, and are 7,500 feet long and 650 wide. A canal has been cut through the ledges around them. The river is in general noted for its sombre grandeur and the numerous castles along its banks.

The *Lake Cirknitzer*, already mentioned, is a great curiosity; for during one portion of the year fishing is carried on in it, and when the water disappears through the opening at the bottom it is farmed the remainder of the year.

The *Cave of Adelsberg*, about six miles from Trieste, is one of the most remarkable known. It contains various halls, grottos and translucent pillars as white as snow. Numerous stalactites hang from the roof, which, under the torch-light, dazzle with their radiance, and the sides are adorned with brilliant incrustations. Abysses, five and six hundred feet deep, occur, and a river is spanned by two large bridges. The cave is noted for its length and height, as well as for its endless variety of forms. At every step, it is said, the scene shifts like a panorama.

Austria has much of interest to the tourist.

SOIL.

6. This is fertile, and generally well cultivated, though there are extensive forests.

CLIMATE.

7. The climate is temperate and very healthy. The winters are cold in the mountains, but sudden changes are not common. In the south the climate is exceedingly mild.

VEGETABLE PRODUCTS.

8. Wheat is the staple product of the German districts. Buckwheat is raised in the sandy regions. Corn, rice, and beans are produced in Hungary. Apples, pears and plums, cucumbers, melons, pepper, anise, licorice, ginger, flax, hemp, tobacco, and grapes are produced in immense quantities, especially in Hungary.

MINERALS.

9. Every known mineral, except platinum, is found. The coal fields are considered inexhaustible. There is a bed of rock salt in Galicia, several hundred miles in length. At Wieliczka, near Cracow, there is a gigantic mine, extending in a labyrinth of galleries 9,000 feet long and 4,000 feet wide. Other minerals are gold, silver, lead, iron, arsenic, alum, antimony, alabaster, slate, granite, marble, etc. Precious stones are beautiful. There are upwards of 1,600 mineral springs.

MANUFACTURES.

10. The manufactures have made immense progress during the last twenty-five years. The principal articles are cottons, woolen, linens, silks, wares of gold, copper, silver, tin, lead, and hardware, glass, steel, porcelain, cutlery, cheese, etc.

ANIMALS.

11. Horses are raised everywhere; sheep and cattle on the plains; goats and hogs in Hungary. The wild animals include the deer, wild boar, hares, bears, chamois, wolves, and beavers.

COMMERCE.

12. Austria is not favorably situated for commerce, having but one sea-port on the Adriatic. In 1881 the exports were \$340,000,000, and the imports \$383,000,000. In addition to grain the leading exports are her manufactures. The imports are raw cotton, coffee, iron rails, tobacco, and wrought iron.

INTERNAL IMPROVEMENTS.

13. There are 13,000 miles of railroads; and 31,000 miles of telegraph. Many good roads exist, and public works are numerous.

INHABITANTS.

14. The total population of Austria is 37,841,000, of which twenty-five per cent, are Germans; Slavonians, forty-six per cent., and

Hungarians, sixteen per cent. Of the Slavonic there are many races, as the Poles, Moravians, Servians, Croats, etc. There are besides many Jews, Italians and Gypsies.

OCCUPATION.

15. The majority of the people pursue agriculture. About thirty per cent. are engaged in trade or manufacture.

LANGUAGE.

16. No less than seventeen different languages are spoken, but there is a much larger per cent. of German than any other.

GOVERNMENT.

17. Austria has a limited monarchy ; Franz Joseph I. is emperor. The legislative body consists of a House of Lords, appointed by the emperor, and a House of Representatives, elected by the citizens possessing a property qualification. Austria comprises five countries, each bearing the name of kingdom—Hungary, Transylvania, Bohemia, Moravia, and Austria proper.

EDUCATION.

18. Great attention is paid to education. All children from six to twelve are compelled by law to attend school. There are many universities, colleges and gymnasia.

RELIGION.

19. More than three-fourths of the people are Roman Catholics. There are many Greek Christians, Protestants, and about 1,333,000 Jews.

CITIES.

20. *Vienna* is the capital, on the Danube river. It is a splendid city. It is the chief manufacturing city of the empire, and is renowned for its elegant public buildings, library and medical school.

Trieste, on the Adriatic, is the leading commercial city.

Buda-Pesth, on the Danube, has extensive manufactures. A suspension bridge connects these two cities.

Lemberg, in the north-east, is celebrated for its library of 60,000 volumes, and cheese.

Prague, the capital of the ancient kingdom of Bohemia, is the seat of the oldest university in central Europe, being founded in 1348.

Cities.	Population.	Cities.	Population.
Vienna	1,104,000	Brun	91,000
Buda-Pesth	365,000	Cracovia	61,000
Prague	190,000	Pilsen	38,000
Lemberg	108,000	Inspruck	19,000
Trieste	145,000	Olmütz	20,000
Gratz	93,000		

HISTORY.

21. The history of Austria properly goes back to the time of Charlemagne, who conquered it in 791. In 1156 it became a duchy. Rudolph of Hapsburg was the founder of its subsequent greatness. He was elected Emperor of Germany in 1273, and from this time the house of Austria became prominent in Europe. In 1516 the Austrian empire, under Charles V., surpassed any other European power that had existed since the days of Charlemagne. On the death of Charles his empire was dismembered. The Emperor of Austria, however, was generally Emperor of Germany, till the German Empire was overthrown by Napoleon, in 1806. During the subsequent wars with the French, Austria suffered severely; but in 1815 her territory was restored. In 1848 extensive insurrections broke out in northern Italy and Hungary, but they were suppressed in 1849. In 1866 Prussia and Austria, as competitors for the supremacy, were engaged in war, which resulted in favor of the former, and Austria was thrown out of the confederation. In 1867 the Austro-Hungarian government was re-constructed.

CHAPTER XXVII.

SWITZERLAND.

MAP EXERCISES.

What mountains in the south? What on the west? What two large rivers rise in Switzerland? Describe them. Name and locate five of her lakes. What and where is the capital, Zurich, Constance, Geneva, Basle, Lucerne? Bound Switzerland. Give latitude and longitude of its capital.

DESCRIPTION.

CHARACTERISTICS.

1. Switzerland is remarkable for its sublime mountains, its beautiful lakes and romantic beauty. The area is 14,981 square miles.

SURFACE.

2. The *Alps*, the most remarkable mountains in Europe, both in extent and elevation, cover all the central and southern parts of the country. The higher peaks are covered with perpetual snow, and present in their magnificent glaciers, innumerable cascades, which are precipitated from

their summits, and the forests and meadows which cover their flanks, the most impressive and picturesque scene in Europe. *Mount Blanc* and *Mount Rosa* are the highest peaks, each being over 15,000 feet in elevation. *St. Gothard*, about 12,500 feet high, is celebrated for its tunnel, over nine miles long. There are numerous valleys, some of which are of considerable extent.

LAKES.

3. No country in Europe, excepting Scandinavia, has so many lakes as Switzerland. They vary in depth from 500 to 1,900 feet. The larger ones are traversed by steamboats. Many of the lakes partly disappear during one season of the year and fill up again during the other. There is supposed to be a submarine channel. The principal lakes are *Geneva*, *Lucerne*, *Constance*, and *Zurich*.

RIVERS.

4. The rivers *Rhine*, *Rhone*, and *Ticino*, rise in Switzerland; the former in Lake Constance, and the Rhone flows through Lake Geneva.

NATURAL CURIOSITIES.

Switzerland is famed for her beautiful scenery, and is visited by thousands of pleasure-seekers and lovers of nature every year. Her numerous lakes set like gems amidst the finest mountain scenery of the earth. From the tops of her mountains the grandest prospects present themselves. *Mount St. Gothard* contains the largest tunnel of the world, being nine miles long. Terrific gorges exist at various points, but the finest is at *Via Mala*, where a deep ravine is formed by the mountains four miles long, and walled in by precipices in some places 1,600 feet high, and not more than fifty feet between.

The "Falls of the Staubach" are 900 feet high, and the water is reduced to a spray before reaching the bottom.

Among the places which afford a concentration of the grandest Alpine scenery are the valleys of *Bernese Oberland* and those which descend from *Monta Rosa* into *Valais*. Here the glaciers are seen to the best advantage.

SOIL.

5. There are fertile valleys, but the country is better adapted to grazing than to growing grains. The pastures are particularly fine.

CLIMATE.

6. Owing to the great elevations the climate of Switzerland is colder than that of the surrounding countries. However, the climate is temperate in the plains and hot in the low valleys. It is subject to

great extremes and violent contrasts, and is unhealthy in many of the deep valleys.

AGRICULTURAL PRODUCTS.

7. Cattle raising is the chief occupation. There is not enough of grain raised to supply its own population. Flax and hemp are extensively grown. Buckwheat is grown at great elevations. The vine and some fruits are also cultivated with great success.

MINERALS.

8. Iron is found in the mountains generally, but chiefly on the Jura. Lead, zinc and coal are also found. However, Switzerland is not particularly noted for her minerals. There are 300 mineral springs and many baths.

ANIMALS.

9. The lakes are filled with fish. Other animals are the chamois, bear, wolves, hare and fox.

MANUFACTURES.

10. This country has made rapid progress in manufactures. The leading articles include cotton, silk goods, watches, jewelry, music boxes, salt and cheese.

COMMERCE.

11. This country has no sea coast, yet it has considerable trade with the surrounding states. The principal articles of import are grain, flour, wine, cider, iron, raw cotton, and petroleum. There are upwards of 1,700 miles of railroads and several canals.

INHABITANTS.

12. According to the census of 1880 Switzerland had 2,846,000 inhabitants, of which about 1,690,000 were Protestants, and the remainder chiefly Roman Catholics.

LANGUAGE.

13. The German is the prevailing language in the north, the French in the west, and the Italian in the south.

EDUCATION.

14. Public instruction is widely disseminated, and from the ages of five to eight is compulsory. There are three universities of an high order, besides many gymnasia. The former at Basle, Berne and Zurich.

GOVERNMENT.

15. Switzerland is a republic, composed of twenty-two cantons. "The executive power is a federal council, chosen for three years by the federal assembly, and in a president of the Swiss confederation, elected for one year by its own members from the federal council." The federal council, a legislative body, consists of two houses—upper and a lower.

CITIES.

Names.	Population.	Remarks.
Zurich	76,000	Contains beautiful environs and large manufactures of watches, musical boxes and jewelry.
Geneva	68,000	
Basle	61,000	A great educational center. Its ribbon manufactures are extensive.
Berne	41,000	The finest city in Switzerland, and one of the finest in Europe. The university has a library of 45,000 volumes.
Lausanne	30,000	Contains the finest cathedral in Switzerland. Voltaire, Halle and Byron resided here. Gibbon wrote here the latter half of the "Decline and Fall of the Roman Empire."
Lucerne	18,000	It is highly picturesque, enclosed by wall and watch-tower. One of the largest commercial markets in Switzerland.

HISTORY.

17. The country was called Helvetia by the Romans, and was inhabited by the Helvetii, a Celtic tribe. It was conquered and colonized by the Romans. Several centuries after the Huns swept through the valleys of the Alps and the Roman improvements disappeared. In the middle of the sixth century the country was conquered by the Franks and it became a part of that territory. At length incensed by the oppression of Albert of Austria, the three cantons of Schweiz, Uri and Unterwalden rose in rebellion and obtained their independence, 1307, under William Tell, the hero of Switzerland. During the next three centuries they received accessions of territory by the admission of other cantons. This country was compelled to submit to the dictation of France at the time of the revolution, but upon the overthrow of Napoleon it again became independent. Numa Draz became President January 1, 1881.

CHAPTER XXVIII.

ITALY.

MAP EXERCISES.

Locate the following:

CAPES.

Spartivento, Passaro, Nào, Leuca.

GULFS AND BAYS.

Policastro, Taranto, Venice, Genoa, Naples.

STRAITS.

Bonifacio, Messina, Otranto.

ISLANDS.

Sardinia, Sicily, Lipari, Elba.

SEAS.

Mediterranean, Adriatic.

MOUNTAINS.

Apennine, Etna, Vesuvius, Vulcano, Stromboli, Gran Sasso, Gorgano, Visa, Cenis, Polino, Genargentu.

LAKES

Maggiore, Como, Garda.

RIVERS.

Po, Arno, Tiber.

CITIES.

Rome, Venice, Naples, Florence, Milan, Turin, Genoa, Como, Leghorn, Pisa, Palermo, Syracuse, Messina, Cagliari, Parma.

Bound Italy. Between what parallels of latitude does it lie? between what meridians? State the latitude and longitude of Rome. What mountains on the north? What is the difference of time between Rome and Constantinople? By the scale of miles what is the

distance from Rome to Milan, to Etna, to Marseilles? What isotherms cross Italy? In what direction is Rome from Milan; from Venice; Madrid; Cagliari? What change of time would you have to make in your watch in going from Rome to Athens; to Lisbon; to New Orleans; to Berlin?

DESCRIPTION.

EXTENT.

1. Italy is 706 miles long and from 100 to 300 miles broad. Area, 114,380 square miles.

COAST.

2. The shores, extending about 2,000 miles, present a very irregular outline. The peninsula, which represents a boot in form, is inclosed by the Mediterranean and its branches. The borders of this sea have been crowded with towns and cities from a very early period. The commercial facilities were a great cause of the extended dominion and immense wealth of ancient Rome. The islands have a shore line measuring more than 1,300 miles.

ISLANDS.

3. *Sicily* is the largest and finest island in the Mediterranean; its area is 10,000 square miles; *Mount Etna*, 10,782 feet high, is one of the most celebrated volcanoes in the world. *Sardinia* is a mountainous isle, containing 9,000 square miles. *Elba* is celebrated as the place to which Napoleon Bonaparte was first exiled, May 3, 1814, to February 26, 1815. The *Lipari* consists of seven principal islands, one of which contains the remarkable volcano of Stromboli, which is always burning; it is sometimes called the "Light-house of the Mediterranean." *Vulcano* is another distinguished volcano on these islands.

SURFACE.

4. The Apennines, sometimes called the "backbone" of Italy, trend throughout the length of Italy, and throw off many lateral ranges, between which are valleys famed for their beauty and fertility. The eastern part is generally flat along the shores and uninteresting. The valley of the Po is a broad plain and the most fertile land in Europe. There are extensive marshy tracts in several places. The bays and harbors along the western shore are remarkable for their picturesque loveliness; those of Genoa and Naples are the most celebrated. Mount Vesuvius is a noted volcano south of Naples.

OBJECTS OF INTEREST.

5. Italy is one of the most interesting countries in the world. Its mountains, valleys and lakes abound in scenery of the greatest romantic beauty. The ruins of many of its cities and public works are of intense interest to the scholar. Almost every spot has been the scene of some important event. The *Blue Grotto of Capri* is on the island of Capri, near the bay of Naples. It is as high as a four story house, and can be entered only by a canoe through an opening arch about a yard high. The water inside is very deep and like the walls and roof of a beautiful color. Several other beautiful caves exist on this island, but none of such magnificence as this.

Mount Pausilipo is a celebrated mountain near Naples, noted for its grotto nearly a mile long, twenty feet wide and from thirty to forty feet high. The gentry drive through it with lighted torches. The mountain contains the tomb of Virgil.

The *Snow Grotto* on the side of Mt. Etna is an excavation used as a magazine for snow to cool wines and other liquors.

The *Leaning Tower of Pisa* is 179 feet high, and leans thirteen feet from a perpendicular. The lakes of Italy are especially celebrated for their lovely scenery.

A celebrated gas cave exists near Naples, called the *Grotto del Cane*. It is ten feet long, four broad, and nine high. The floor is covered with carbonic acid gas and is destructive of life. About fifty miles N. N. E. of Rome the Velino rushes over three lofty precipices, the highest of which is 300 feet; of all 850 feet. They are said to be the finest cascades in Europe.

SOIL.

6. As has been said this is on a whole of great fertility. There are a few barren tracts among the mountains and in the low, sandy marshes.

CLIMATE.

7. To the north the climate is cool; to the south it is hot. The *Sirocco*, a burning wind from Africa, afflicts the south in summer. The atmosphere is remarkable for its clearness, which gives to objects at a distance a lightness of color and distinctness of outline unknown elsewhere in Europe. Owing to the great number of clear days the country is sometimes called "Sunny Italy." The geniality of its climate has had a wonderful effect on its inhabitants. In the marshes the climate is exceedingly unhealthy.

LAKES.

8. The lakes of Italy are numerous, especially in the north, and many of them are noted for their picturesque beauty. *Como* is the most celebrated of the lakes, being noted for the beauty of its situation. Its banks are lined with villages and its waters filled with fish.

Storms are frequent. Other interesting lakes are *Maggiore*, *Garda*, *Bolsena* and *Celano*.

RIVERS.

9. The rivers are numerous, but of small size excepting the *Po*.

Names.	Length. Miles.	Remarks.
Po	460	280 miles of navigation. The water of its lower course is kept in by levees.
Tiber	210	20. Empties into the sea by two mouths.
Arno	75	To Florence. Its valley is of extreme beauty and fertility.

PRODUCTIONS.

10. Italy is the "Garden of Europe," so called because of its extreme fertility, variety of vegetable products, salubrious climate, and lovely scenery. Rice, the vine, olive, oranges, figs, silk, cotton, cattle and goats are among the products of agriculture. Fish are abundant in the rivers. The buffalo is domesticated. Sponges and coral are taken along the coast of Sicily. The culture of the mulberry and the raising of the silk-worm are among the important industries.

MANUFACTURES.

11. The manufactures include woolens, silk, gauze, porcelain, artificial flowers, straw hats, parchments, and musical instruments.

MINERALS.

12. Italy is rich in mineral products. The metals are few except iron and lead. Marble is found in large quantities. Other minerals are salt, sulphur, lava, borax, nitre, alum, and alabaster. There are many mineral and gaseous springs.

COMMERCE.

13. This is large, and employs many vessels and men. The exports embrace silk, wool, oil, honey, cheese, straw hats, sulphur, artificial flowers, etc. Their value in 1880 was \$225,000,000. The imports of \$244,000,000 include grain, colonial produce, hides, leather, raw metals, machines, yarns, and objects of art.

INTERNAL IMPROVEMENTS.

14. Many of the streams and channels are crossed by splendid bridges. There are about 6,000 miles of railroad, and 15,000 miles of telegraph in operation. There are some good public roads, some of which are of great antiquity.

INHABITANTS.

15. Nowhere is wealth more unevenly distributed. The people are either very rich or very poor; the masses belong to the latter class, and the value of human life seems reduced to the lowest scale; yet the people are full of genius, excelling in the fine arts, and endowed with a capacity for vocal music beyond any other nation. Many Italians have distinguished themselves in painting, music and sculpture. Among these may be named Raphael, Michael Angelo and Canova. All classes are more fond of cheerful amusement than thrifty toil. Much time is spent in the open air, and music, dancing and conversation are leading sources of pleasure. The population of Italy is 28,210,000.

GOVERNMENT.

16. Italy is a constitutional monarchy, with Humbert I. as king. The legislative body consists of a Senate of 270 members, appointed for life, and a Chamber of Deputies of 508 members, elected by general suffrage. Standing army consists of 737,000 men; navy of sixty-six vessels.

EDUCATION.

17. The education is compulsory and gratuitous. There are twenty-one universities, seventeen of which are supported by the government. Some of these are of a high order.

LANGUAGE.

18. The Italian is the language of all Italy, but there are many dialects. In Tuscany only is the Italian spoken in its purity.

RELIGION.

19. Of the whole population more than twenty-six millions are Roman Catholics; the remaining are chiefly Protestants.

OCCUPATION.

20. Though agriculture is the leading pursuit, it is estimated that not more than two-thirds of the arable land is cultivated. In some places, however, farming is carried on with great skill.

Commerce, manufacturing and fishing gives employment to many of the inhabitants. Sardine fishing is carried on extensively.

CITIES.

21. The following are the principal cities :

Names.	Population.	Remarks.
Rome	300,000	The seat and center of the ancient Roman power, and the most celebrated spot on the face of the globe. Though it has lost much of its former glory, it is still interesting on account of its splendid ruins. St. Peters is the grandest church in existence.
Milan	321,000	This is a splendid city, and famed for its magnificent cathedral of pure white marble. It is the great center of the silk and book trade.
Naples	494,000	This city is filled with beggars who live and sleep on the streets. Near Naples are the volcano of Vesuvius, and the ruins of Herculaneum and Pompeii. The commerce is great.
Palermo	244,000	Formerly the capital of Sicily. It is an important commercial center, and is noted for its ship building.
Turin	252,000	This city is renowned for its university, and its library of 200,000 volumes. The city presents a fine appearance, and is scarcely excelled in this respect by any other European city. Sculptures are numerous.
Genoa	179,000	Genoa is celebrated as the birthplace of Columbus. It is extensively engaged in commerce and ship building. Its harbor is one of the finest in the world.
Florence	167,000	One of the richest of the Italian cities in collections of paintings and sculpturing. It is an active trading center.
Venice	133,000	Formerly renowned for its wealth, splendor and power. It is built upon eighty islands, connected by more than 500 bridges. The chief commercial city on the Adriatic.
Messina	112,000	It is strongly fortified, with one of the best harbors on the Mediterranean, and has an active trade in silks and fruit.
Bologna	123,000	It contains the oldest university of Italy, founded in 1112. Its library contains 200,000 volumes, and its botanical garden is one of the finest in Europe. It is noted for the number of distinguished men it has produced.
Leghorn	97,000	This is an important commercial city, and contains one of the finest synagogues in the world.
Catania	91,000	There is a large trade. The city presents a fine appearance at sea, and is internally an elegant city.
Pisa	50,000	Pisa is noted for its leaning tower, 270 feet high, and leaning thirteen feet from a perpendicular.

HISTORY.

22. Italy, with Rome, its capital, was once the seat of the great Roman Empire. Owing largely to internal dissensions the empire fell to pieces, and Italy for a long time consisted of many states, with many changes and revolutions. It was during the fifth century that Rome became a prey to the Barbarians. Odoacer, who had become king of Italy, was conquered and killed in battle by Theodoric, a leader of the Ostrogoths, who now became king. He was a wise ruler, and during his reign of thirty-five years the Italians enjoyed a perpetual period of prosperity. About 535 Italy came under the dominion of the Byzantine emperor. After a few years the Lombards, a German tribe, made themselves master of northern Italy, and captured Ravenna, which was then capital.

Charlemagne conquered the Lombards and annexed all Italy to his empire. In 888 Italy was detached, and became a separate kingdom. After this the cities and states began to form themselves into republics, each governed by a duke and senators. In 961 the German Emperor was acknowledged sovereign of Italy. Every city was now encompassed by a wall. Between the twelfth and fifteenth centuries there were many revolts and desolating wars. In the fourteenth century there were two Popes—one at Rome and the other at Avignon, France; and finally there was a third elected. These were all set aside by the council of Constance in 1417, and a new Pope established. Venice, founded by a few fishermen upon the marshes of the Adriatic, in the fifth century, became a powerful republic during the middle ages, and continued to be the wealthiest and most powerful state in Christendom. Toward the close of the fifteenth century the power of Venice declined. In 1797, after Napoleon's conquest of Italy, it formed a portion of Cisalpine Gaul. It was restored to Austria in 1815. In 1848 all Italy was thrown into a revolutionary ferment. The Austrians prevailed in northern Italy, and the revolution was checked. From 1859 to 1870 all the states of Italy were united under one government, and Rome again became the capital of Italy.

San Marino is a small republic on the Adriatic containing an area of twenty-two square miles. It was founded in 441 A. D. by a Dalmatian stone-cutter named Marino, who built a hermitage in the neighborhood and was regarded as a saint. Here a town gradually arose, which became a little republic, and continued independent, with brief exceptions, up to the present day.

CHAPTER XXIX.

TURKEY.

MAP EXERCISES.

What two rivers on the northern boundary? Describe each of these. Describe the Moravia river, the Drina, and the three largest rivers emptying into the Archipelago. Locate the following mountain ranges: Balkan, Pindus, Shar Dah, Olympus, Athos. What country north of Turkey? Locate the strait of Otranto, Dardanelles, Bosphorus.

Describe the Sereth and Pruth rivers? Where is Constantinople, Salonica, Adrianople, Belgrade, Cettinje, Bucharest? What is the latitude and longitude of the capital? By the scale of miles what is the distance from Constantinople to Rome; to Athens; to Vienna?

Trace a water route from Constantinople to Venice; to Belgrade; to Salonica; to Geneva; Servia and Roumania.

(For the sake of convenience and economy of space Turkey, Montenegro, Servia and Roumania will be treated together.)

DESCRIPTION.

EXTENT.

Name.	Area. Sq. Miles.	Population.
Turkey	141,000	8,500,000
Roumania	47,000	4,500,000
Servia	17,000	1,837,000
Montenegro	1,700	120,000

COAST.

2. The vast extent of coast embraces many excellent harbors. There are many gulfs and bays setting deep into its sides, the principal of which are Salonica, Orfani, etc.

"The Golden Horn" is the name given to a branch of the Bosphorus on which the city of Constantinople is situated; the bay is celebrated for its beauty. The "Hellespont" was named from Helle, the wife of Phryxus, who went to Colchis mounted on the back of a winged ram, with the "Golden Fleece," but in crossing over the strait, now called Dardanelles, she fell into the water and was drowned.

SURFACE.

3. Most of the surface is an undulating region of hills and valleys, with mountains and table-lands of little elevation. The *Balkan* and *Pindus* ranges are the principal mountains. *Mount Olympus*, "Abode of the Celestials," is 9,745 feet high.

RIVERS.

4. The following are the principal rivers:

Name.	Length. Miles.	Remarks.
Danube	1,500	Area of delta, 1,000 square miles. Contains 100 navigable tributaries. Navigable to the Kulpa.
Save	550	
Pruth	360	
Sereth	270	
Maritza	260	

SOIL.

5. The soil of this section is for the most part very fertile, but it is cultivated very poorly.

CLIMATE.

6. The climate at the north is severe; south of the Balkan mountains it is delicious. In some of the marshy tracts the climate is unhealthy. Sudden and extreme changes are common. Earthquakes and destructive storms occur at some parts.

VEGETABLE PRODUCTS.

7. A large part of the surface is covered with forests of fir and deciduous trees. The olive, vine, rice, cotton, pepper, maize, and other grains, are products of agriculture. The southern slope of the Balkan is remarkable for the fields of roses from which the ottar of roses is made.

ANIMALS.

8. The bear, wolf, wild boar, chamois and stags are in the woods. The domestic animals comprise the sheep, a small breed of horses, the mule, goat, ass, buffalo, hog, cattle, etc.

Fish abound in the rivers and leeches in the marshes.

MINERALS.

9. The chief minerals are iron in great abundance, copper, sulphur, salt, marble, lead, and alum.

MANUFACTURES.

10. The manufactures are almost entirely domestic, comprising saddles, fire-arms, swords, coarse woolens, linen and cotton spinning, copper and tin utensils, rich carpets, tanneries, and embroideries.

COMMERCE.

11. Commerce is almost entirely in the hands of the Greeks, Jews, and Armenians. There has been an enormous increase in trade of late years. The exports in 1880 amounted to more than \$99,000,000, and embraced grain, cotton, fruit, wine, tobacco, coffee, honey, silk, carpets, and madder. The imports for the same time were \$107,300,000, and consisted chiefly of British manufactures and colonial produce. There are 1,000 miles of railroads and 16,000 miles of telegraph.

INHABITANTS.

12. About one-third of the inhabitants are Turks; the rest are Albanians, Jews, Bohemians, Gypsies. Their religion is Moham-

medan, except in the principalities where the inhabitants profess the Greek faith.

EDUCATION.

13. Education is at a very low ebb in Turkey, and the masses are very ignorant and bigoted. The language is Turkish, with many dialects.

GOVERNMENT.

14. The government of Turkey is a despotism. The emperor, who is styled Sultan or Grand Seignior, is regarded as absolute sovereign; his power not only extends to European but to Asiatic Turkey, the latter being twice as large as the former.

Roumania, Servia, and Montenegro formerly belonged to Turkey, but since the late war with Russia, 1877, are independent. Roumania is a kingdom, with Bucharest as its capital. Jassy is an important trading town.

Servia is a principality. Its resources are wholly undeveloped, the chief export being hogs, of which millions feed in the forests upon acorns. Belgrade is the capital. Montenegro, an independent monarchy, is on the Adriatic. Its capital is Cetinje.

CITIES.

15. *Constantinople*, the capital, is one of the largest cities in Europe. Its situation is beautiful, and its external aspect imposing; yet it has numerous crooked streets, and gloomy dwellings of wood. The Seraglio, or palace, is a large collection of buildings where the Sultan lives in pomp and luxury. The city contains three hundred mosques. Its mosque, one of the finest in the world, is called the "Golden Horn."

Adrianople is the second city in size and importance. It has the finest Moslem temple extant. For about one hundred years, from 1366 to 1453, this city was the capital of the Ottoman Empire.

Sabatia has externally an imposing appearance, and is commanded by the large citadel called the "Seven Towers." It has numerous antiquities, and many other objects of interest.

Principal cities with their population:

Constantinople	873,000	Bucharest	222,000
Salonica	80,000	Belgrade	28,000
Adrianople	162,000	Jassy	90,000
Serajevo	50,000	Cetinje	1,200

HISTORY.

16. The Ottoman Turks originated in Tartary, in the vicinity of the Caspian Sea. Some tribes of the same race still exist in that country. In the eleventh century Seljuk, chief of the Turkish tribe, led his followers southward, and they afterward made a settlement in Persia, which is known in his-

tory as the Seljukian Empire. This flourished for 150 years, and was broken up by Zingis Khan, the terrible Mongol conqueror, A. D. 1250. A wandering band of the Turks took refuge at Armenia. Othman, or Osman, one of the chiefs of these, established himself at Iconium, in Asia Minor, and is regarded as the founder of the Ottoman Empire, which takes its name from him. Osman II., who came to the throne in 1326, first took the title Sultan. He extended his territories in Asia Minor, then belonging to the Byzantine Empire. Several distinguished monarchs followed him on the throne, among whom were Orchan, Amuroth and Bajazet. The latter was called "lightning," from the rapidity of his movements. In 1407 he was defeated in Galatia, in Asia Minor, by the celebrated Tamerlane. He was captured, and it is said that he died in an iron cage. In 1451 Mohammed II., the most distinguished of the Ottoman sovereigns, came to the throne. In 1453 he captured Constantinople, the last remnant of the Byzantine Empire. Many changes have taken place since then, but time and space will forbid following them out in detail. In 1877 Turkey lost her control over Montenegro, Serbia and Roumania.

CHAPTER XXX.

GREECE.

MAP EXERCISES.

Bound Greece. What and where is the capital? Give its latitude and longitude. What cape at its southern extremity? Where is the Gulf of Lepanto? What peninsula at the south? Locate the following islands: Uboea, Zante, Cephalonia, Candia, Cyclades. What isotherm crosses Greece? In which city does the sun rise first, in Athens or in Cairo?

DESCRIPTION.

POSITION.

1. Greece, like Italy, is chiefly a peninsula, projecting about 300 miles into the Mediterranean. Area, 20,018 square miles.

COAST.

2. This is exceedingly irregular, being indented by large inlets. The Gulf of Lepanto nearly divides the state. Its fine commercial facilities have been a leading cause of its ancient wealth and power.

SURFACE.

3. The territory is nearly all mountainous, culminated in *Mount Guiona*, 8,240 feet high. The *Pindus* is the principal mountain range. The center of Morea is a table-land, and the coasts are in general high. Taken altogether the general aspect is very beautiful, being diversified by hills, valleys and lakes.

LAKES AND RIVERS.

4. There are numerous small streams which are mostly rapid and unfit for navigation. A characteristic of the rivers of Greece is to disappear by subterranean passages and then have no visible outlet to the sea. The geological structure of the country is lime-stone, full of caves and caverns, while the plains often contain land-locked basins into which the rivers flow, forming lakes, and these seem to empty their waters into the sea by underground streams.

There are numerous lakes, mostly of small size, but some of them are remarkable for their fisheries. The largest, *Lake Copais*, contains an area of forty-one square miles.

SCENERY, ETC.

5. Greece has ever been celebrated for the picturesque beauty of its landscapes, and its sublime mountains, fancied by the ancient inhabitants to be the abodes of gods. Its valleys, assigned to the nymphs and naiads of the forest and the wave, its charming bays, its crystal rivers, and beautiful atmosphere, combined to make it the chosen seat of poetry and art in ancient times, and still render it an object of interest to the most indifferent observer.

"The Grotto of the Seven Sleepers" is a cave on Mount Prion. There is a story that seven Christians, who were persecuted by the Emperor Diocletian, fled to this grotto and fell asleep, and only awoke after two hundred years. Supposing that they had only taken a nap, they went down to the city again and were astonished to find everything so much changed. This cave is much visited by Christians and Mohammedan pilgrims.

SOIL.

6. The soil is generally fertile and well adapted to agriculture.

CLIMATE.

7. The climate is temperate and healthy, except on some parts of the coast. In the vicinity of the lakes violent storms sometimes occur. On the whole, the climate is well adapted for the vigorous development of both animal and vegetable life.

VEGETABLE PRODUCTS.

8. The olive, fig, currant, grape, vine, melon, rice, cotton, orange, date, citron, and pomegranate are cultivated. The mountain heights are covered with pine forests. Only one-seventh is under cultivation.

ANIMALS.

9. Among the wild animals are the wolf, jackal, fox, bear, lynx, badger, deer, roebuck, wild boar, hare, etc. Among the birds are the vulture, owl, partridge, quail, wood-cock, bustard, and pheasant. The coasts and lakes abound with water-fowl. Fish are abundant in all the waters. The principal domestic animals are sheep and goats; bees are also reared.

MINERALS.

10. Minerals are various and rich, but little wrought. Marble is abundant and of a very fine quality. Other building-stones are plentiful. Caverns and mineral springs are common.

MANUFACTURES.

11. The manufactures are mostly domestic, comprising silks, cottons, woollens, pottery, leather, beet sugar, chemicals and salt.

COMMERCE.

12. The commerce is extensive and the chief resource of the inhabitants. The exports are currants, valonia, cotton, wine, yarn, tobacco, oil, figs, sponges, emery, etc., to the amount of \$18,000,000 annually. The imports are cottons, hides, woollens, iron, gunpowder, sugar, etc., to the amount of \$29,000,000.

INHABITANTS.

13. The total population of Greece is 1,680,000, and is composed of Albanians and Greeks.

GOVERNMENT.

14. Greece is a kingdom, under Georgias I. as a ruler. The legislative power resides in a parliament, or single Chamber of Deputies, elected for four years by universal suffrage. The standing army consists of 12,000 men.

EDUCATION.

15. There is an effective and well sustained system of public instruction. The university at Athens has 1,250 students. There are besides gymnasia, normal, polytechnic, military and naval schools.

RELIGION.

16. All creeds are tolerated, but the Greek is the established religion, to which nine-tenths belong.

INTERNAL IMPROVEMENTS.

17. There are only seven and one-half miles of railroads and 1,500 miles of telegraph. There are many ancient ruins.

CITIES.

18. *Athens*, the capital, is one of the most interesting cities in the world. It was once the center of European civilization, but has now almost fallen into insignificance. There is a railway here to Piraeus. The site of the city is grand for scenery. It was founded about 1336 B. C. Population 43,000. *Corinth* was formerly a celebrated city, but is now mostly in ruins. It has 7,000 inhabitants. *Thebes*, founded by Cadmus in 1549 B. C., was anciently a city of great wealth and importance. *Corfu* is beautifully situated on an island of the same name. It is well fortified and has an active trade.

HISTORY.

19. A detailed history of Greece cannot here be given. We will merely mention a few of the leading points of interest. The most remarkable state in that renowned country was Attica, of which Athens was the capital. In 480 B. C., this city was burned by the Persians, but rebuilt about the year 445. Athens continued for several centuries to be the center of art, learning and refinement. Here Socrates, Plato, Diogenes, Zeno and others spent a greater part of their lives. Sparta was the capital of Lacedemon, a very powerful state, but its people were hard, barbarous and selfish. While the Athenians never ceased to instruct men by their genius as displayed in arts, science and philosophy, Sparta has left nothing but the records of stern achievements by war. In 146 B. C. Greece was conquered by the Romans, and continued under their rule for many centuries. After the division of the Roman Empire, 395, it formed a part of the Greek or Byzantine Empire, which continued for nearly a thousand years. At first it embraced Greece, Macedonia and Thrace in Europe, the greater part of western Asia, Egypt, and northern Africa. Toward the close of the fourteenth century the Turks gained possession of Egypt and the greater part of Asia Minor. In 1453 the celebrated Mohammed II. captured Constantinople, the capital, and thus fell the Greek Empire, and upon its ruins rose the Ottoman Empire, occupying almost the same territory as the original Byzantine Empire. For a long period the Ottoman Empire continued to be distinguished for its wealth, intelligence, enterprise and military power. Toward the close of the seventeenth century it began to decline, and finally sank into imbecility. In 1821 the Greeks, who had been under the harsh dominion of Turks for four hundred years, rose in rebellion, and after a protracted struggle established their independence.

England, France and Russia are the protective powers of Greece, and jointly guarantee her independence.

CHAPTER XXXI.

NORWAY AND SWEDEN.

MAP EXERCISES.

Bound Norway. Name and locate its capital. Bound Sweden. Name and locate its capital.

Locate the following:

• CAPES.

North, Stadland, The Naze.

GULFS AND BAYS.

Warranger Fjord, Sogne Fjord, Skager Rack, Cattegat, The Sound, Baltic Sea, Bothnia.

ISLANDS.

Gothland, Oeland, Aland, Faroe, Loffoden.

MOUNTAINS.

Kiolen, Dover Field, Sneehatten, Sulitelma, Kilhorn.

LAKES.

Wener, Wetter, Maelar.

RIVERS.

Tornea, Lulea, Dal, Klar, Glommen.

TOWNS.

Stockholm, Upsala, Fahlun, Christiania, Bergen, Hammerfest, Gotenberg.

Give the latitude and longitude of each of the capitals. Trace a water route from Stockholm to Antwerp; to Marseilles; to Venice. In what zones are these countries?

DESCRIPTION

EXTENT.

1. Norway contains 122,000 square miles, or about three times the area of Ohio. Sweden, 171,000, almost equal to California.

COAST.

2. The coast of Norway is bold and precipitous, and deeply indented by gulfs and bays called fjord. Innumerable islands skirt along its coast. Sweden has about 14,000 miles of coast, with deep inlets. There are many fine harbors. The Maelstrom on the west is a dangerous whirlpool.

SURFACE.

3. Norway, excepting Switzerland, is the most mountainous country in Europe, but Sweden is a level country, with numerous lakes and rivers. Of the latter none are large.

RIVERS.

4. The *Lulea* is 200 miles long, and navigable for a considerable distance. The *Tornea* is 230 miles in length, and in it is a fine cataract. The *Glommen* is the principal river of Norway. The *Goetha*, the outlet of Lake Wener, contains the beautiful falls of *Tralhatta*, 112 feet of perpendicular fall. It is navigable throughout. The *Klar* is about 200 miles long. Many of the rivers of Norway have very lofty cataracts.

LAKES.

5. Nearly one-eighth (22,600 square miles) of the surface is covered by lakes. *Lake Wener* is the largest lake in Sweden, and next after *Onega* and *Lodoga*, the largest in Europe. Area, 2,120 square miles. It is generally deep, but contains several shallow places.

Water is eighty by ten miles, and is often afflicted with severe storms. *Maelar* is an extensive lake, in the south-east. It contains 1,300 islands.

NATURAL CURIOSITIES.

The scenery of these countries presents an almost endless change. The numerous lakes add very much to the natural beauty, some of them being the finest known, and are noted for being the most transparent of any in the world. Near Hardanger, in Norway, is a waterfall over 900 feet in perpendicular height. The *Maelstrom* is a very dangerous whirlpool, in the southern part of the Loffoden islands. It is caused by the flow of the tides among the rocky islands, and the roar of the impetuous waters is scarcely equaled by the loudest and most dreadful cataracts. Ships, when too near, dash to pieces on the rocks. Even whales and other animals have been drawn into this eddy, and their bellowings and howlings have been described as awful.

A very beautiful cataract, the Falls of *Tralhatta*, is on the *Goetha*, in south-western Sweden, 112 feet high. The falls of the *Keelfass* have an uninterrupted fall of 2,000 feet. Numerous other falls exist. *Kilhorn* peak has been mentioned.

A most remarkable cavern is found at *Frederickshall*, in Norway, which is from 40,000 to 60,000 feet deep.

SOIL.

6. The soil of both countries is generally barren; the southern parts are the most fertile. A great portion of the country is covered with pine forests, and unfit for cultivation. It is estimated that not more than one-fifth of Sweden and one hundred and fiftieth of Norway are cultivated.

CLIMATE.

7. The great extent of sea coast and the influence of the Gulf Stream greatly modify the climate. The sea never freezes at North

Cape, but the southern waters are sometimes congealed. The winters are long and cold, and the summers hot and short, the thermometer sometimes indicating a temperature of 108° Fahr. Spring and autumn are scarcely known.

NATURAL PRODUCTIONS.

8. Barley, rye and oats are the principal grains; the former is grown as far north as 70° in Norway. Wheat is grown in the southern parts. Potatoes are an important crop. Cattle raising is a leading industry; goats and sheep are numerous; the horses are diminutive in size.

The reindeer is employed largely, especially by the Laplanders. The wild animals are the bear, fox, lynx, wolf, hare, otter, etc.

The shores literally swarm with sea-fowl.

The fisheries are prolific and of great value; in short, Norway takes the lead in this industry, France comes next, the United States third, and Great Britain fourth. Total value of the world's fisheries \$120,000,000 annually.

MINERALS.

9. The minerals are not only of great variety, but very abundant. There are rich mines of copper, iron and lead. The Swedish iron is especially celebrated. Other minerals are alum, silver, manganese, and small quantities of coal.

MANUFACTURES.

10. The manufactures are not extensive, and consist chiefly of cottons, woollens, sugar, paper, tobacco, linen goods and mathematical instruments. There are many distilleries and breweries.

COMMERCE.

11. This is considerable, amounting to \$80,000,000 in exports, and \$103,000,000 in imports. The former consist of iron, copper, lead, fish and some silver; the latter of grain, beef, woolen, cotton and linen goods. There are about 5,000 miles of railroad and a few canals.

INHABITANTS.

12. The population of Norway is 1,807,000; of Sweden 4,532,000. The people are true, frank and independent. They generally have light flaxen hair, blue eyes, and a ruddy countenance, with faces expressive of good humor. The Swedes are remarkably neat and clean in their habits.

The Laplanders are a diminutive race, seldom more than four feet tall. They are very closely attached to their religion, which is Lutheran.

LANGUAGE.

13. The people of Norway speak the Norwegian, and the people of Sweden the Swedish. They may be regarded as dialects of the Danish language.

RELIGION.

14. The established religion of both countries is the Lutheran. Other religions are tolerated, Jesuits excepted.

EDUCATION.

15. There are few countries where education is more generally diffused. It is conducted on a national system and is compulsory. All children from the age of seven in cities, and eight in the country, must attend school till confirmation, which usually takes place between the ages of fourteen and seventeen.

There are universities at Upsala, Lund, and Christiania.

GOVERNMENT.

16. The government is a limited monarchy, and is mildly administered. Norway is joined to Sweden. The king has a Norwegian council of eight members, and must reside in Norway several months each year, and must also be crowned king of the latter at Drontheim.

CITIES.

17. The following are the leading cities :

Name.	Population.	Remarks
Stockholm . . .	215,000	It has a romantic situation. The palace of the king is one of the most beautiful in Europe, called "Northern Venice."
Christiania . .	130,000	It contains a university, a library of 200,000 volumes, an astronomical observatory. The environs are exceedingly beautiful.
Gottenberg	91,000	The most important sea-port in the kingdom. The manufactures are extensive.
Upsala	12,000	Upsala is noted for its university, which has a library of 150,000 volumes.
Bergen	35,000	It is well built and picturesque. Its fisheries form the leading interest of its people.
Hammerfest	1,500	The most northern town in Europe. The summer's heat is oppressive. It has considerable trade in whale, fish, seal, oils, etc.
Fahlun	8,000	It is celebrated for its rich copper mines.

HISTORY.

10. The first inhabitants of Sweden, with Norway, appear to have been Fins, who were expelled in an early period by a tribe of Teutones. It remained for a long time in dark paganism. It remained independent until subjugated by

Margaret of Denmark, and united by her to that country, by an act called the "Union of Colmar," in 1397. The Swedes, however, revolted in 1520, under Gustavus Vasa, and the Danes expelled from the country. Gustavus Adolphus distinguished himself in his campaigns in the defense of his Reformed Religion.

Charles XII., who came to the throne in 1697, was one of the most renowned warriors of the age. In 1814 Norway was united to Sweden, and still continues so.

When the Laplanders were first known they were independent. In the tenth century the country was taken by Norway. The country was afterward divided between Sweden and Russia. The present king of Sweden and Norway is Oscar II.

CHAPTER XXXII.

RUSSIA.

MAP EXERCISES.

Bound Russia. Between what parallels of latitude does it lie? Between what meridians of longitude. Give the latitude and longitude of the capital.

Locate the following:

SEAS.

White, Kara, Black, Baltic, Caspian.

GULFS, ETC.

Cheskaya, Riga, Finland.

CAPIES AND PENINSULAS.

Kanin, Kola, Crimea.

LAKES.

Ladoga, Onega, Ilmen, Peipus.

RIVERS.

Ural, Volga, Kama, Don, Dnieper, Bug, Pruth, Niemen, Duna, Onega, Dwina, Petchora.

CITIES.

St Petersburg, Astrachan, Sebastopol, Odessa, Warsaw, Moscow, Niznei Novgorod, Riga, Dorpat, Cronstadt, New Archangel.

What mountains on the eastern boundary? What hills near the center? In what zones is Russia? In what direction is Moscow from St. Petersburg, Odessa, Warsaw, Astrachan, Onega?

DESCRIPTION.

EXTENT.

1. Russia is 2,000 miles in length and 1,750 miles in breadth. Area, 2,129,000 square miles, or more than one-half of all Europe. Distance from Moscow on an air line:

St. Petersburg	400 miles.	Sebastopol	790 miles.
Astrachan	790 "	Berlin	1,025 "
New Archangel	630 "	Constantinople	1,100 "
Warsaw	630 "	Rome	1,600 "

COAST.

2. Russia has extensive sea coast, about 14,000 miles in the whole empire. There are several valuable harbors. In some places the waters are shallow.

ISLANDS.

3. There are numerous islands belonging to this empire, but they are for the most part in the Arctic waters, and valuable fishing stations; of these the leading are Nova Zembla and Spitzbergen.

SURFACE.

4. The *Ural* mountains form a part of the eastern boundary. The *Caucasus* on the south-east. The *Valdai Hills*, about 1,100 feet above the level of the sea, form the highest land in Russia. There are immense marshes in the north and south-east. The whole country may be described as being in general level. The great *Steppe* region covers an area of 303,000 square miles.

CURIOSITIES.

While Russia does not present to the traveler many objects of interest in nature, yet it is not devoid of them. The northern slope of the *Caucasus* mountains contains a number of passes and defiles, some of appalling grandeur. The most famous are those of the valley of the River *Terek*, which abounds in the most tremendous precipices and roaring cataracts. The mountain cliffs are so lofty, close and overhanging that the frightful chasm wears even at noon-day a twilight gloom. For many miles along this slope the scene is of surpassing magnificence, walls of rock rising 4,000 feet above the river.

LAKES.

5. There are thousands of lakes in the north-west, but many of them are small. They contain fish, and are useful for internal navigation. The largest is *Lake Ladoga*, being 120 miles long, and seventy broad. Area, 6,190 square miles. *Onega* is about one-half as large as

the former, and, unlike it, the shores are rocky and water clear. *Peipus* and *Ilmen* are lakes of considerable importance.

RIVERS.

6. The rivers of Russia are the largest in Europe. Nearly all the main streams radiate from the Valdai Hills. The following are the most important :

Name.	Length. Miles.	Remarks.
Petchora . .	900	Its mouth is an estuary, with numerous islands.
Volga . . .	2,000	It empties into the Caspian through seventy mouths. Navigation is obstructed by sand bars.
Don	975	Water is shallow during the summer, and is frozen over during the winter. During the rest of the year is navigable.
Dnieper . .	1,060	Area of basin 240,000 square miles. Navigable to Smolensk, but is much hindered by rapids.
Ural	1,000	Has a large delta. Abounds in fish.
Dniester . .	500	Very shallow during the summer, but during the rest of the year affords steamboat navigation.
Bug	300	It is connected by a canal with the Dnieper.
Dwina . . .	400	Area of basin 140,000 square miles. It is the main channel of trade between central Russia and the White sea.
Duna . . .	600	Area of basin 65,000 square miles. Nearly all of it is navigable, but in some places is obstructed by shoals.

SOIL.

7. Russia embraces nearly every variety of soil. Much of it is unfit for cultivation. Only one-fifth is arable land, and two-fifths is covered with forest. The rest consists of meadows and barrens. The most valuable part of Russia lies south of the Valdai Hills, and extends almost to the sea of Azov, and from the Volga river west. It is called the "Granary of Europe."

CLIMATE.

8. Russia lies mainly in the temperate zone, but there is great diversity of climate. In the Steppe regions there are great extremes of temperature on account of the dryness of the atmosphere. The winters in almost all parts are very cold; even the Sea of Azov sometimes freezes as early as October. Rain-fall is most abundant in the regions of the Baltic. In the interior, south and south-east winds prevail, but on the coast the north-west and west winds are the most common.

VEGETABLE PRODUCTIONS.

9. Russia produces all the plants found in the central parts of Europe. Large quantities of grain are exported. Oats are raised as far north as the White sea. Hemp and flax on the Volga. The grape

is cultivated on the Crimea. Potatoes, tobacco, and garden vegetables are also produced in large quantities.

ANIMALS.

10. The forests are filled with bears, wolves, lynx, foxes, deer, hares, wild boars, etc. Geese and ducks abound on the lakes, and fish are plentiful in the rivers. Cattle, sheep, and horses are raised in large numbers.

Bee culture is carried on extensively in some parts.

MINERALS.

11. Gold, platina, and copper are found in the Ural mountains, though chiefly on the Asiatic side. The salt-springs in the north-west are valuable. Coal, iron, and petroleum are abundant in the southern provinces.

MANUFACTURES.

12. The staple manufactures are cottons, woolens, silks, linens, cordage, sail-cloth, soap, candles, glass, porcelain, paper, etc.

COMMERCE.

13. The commerce of Russia is greatly facilitated by the vast and excellent system of canals and navigable rivers. By means of the former the Baltic and White seas communicate with the Caspian and Black seas, and the lakes and rivers are united into a complete system of internal navigation.

The exports (\$418,500,000) consist of grains, flax, timber, hides, tallow, bristles, bones, etc. The imports (\$396,000,000), of cotton, tea, woolens, coal, hardware, machinery, rice, wine, and the like. The trade is chiefly with Germany and Great Britain. There are 17,000 miles of railway.

INHABITANTS.

14. Two-thirds of the entire population are of the Slavonic stock. The Cossacks are famous horsemen, and are a branch of the Tartars of Asia, living upon the river Don. The Baskirs are numerous along the borders of Siberia. The people are of a cheerful temperament, fond of song and frolic, and addicted to excessive drinking. Theft is common. Population of European Russia about 80,000,000; of the whole empire, 88,000,000.

LANGUAGE.

15. There are many dialects, but four-fifths of the people speak the Russian. It is soft, rich, and sonorous, but a foreigner can scarcely master it on account of the extreme difficulty of its pronunciation.

EDUCATION.

16. Education is still in a very backward state, though of late great efforts have been made to improve it. On the whole the people are

very ignorant. There are several schools of a superior rank; among these may be mentioned the eight universities: at St. Petersburg, Moscow, Dorpat, Kiev, Warsaw, Kazan, Kharkov, Odessa.

RELIGION.

17. All religions are tolerated except the Jews, who are excluded from Russia proper. The Greek is the established religion of the empire; it is controlled by a Holy Synod. There are many Roman Catholics, Protestants, and Mohammedans. In Finland the people are chiefly Lutherans.

GOVERNMENT.

18. Russia is a despotism. The Czar is assisted by the council of ministers. He is styled the "Autocrat of all the Russias," and is also head of the Greek Church. The standing army is the largest in the world—975,000 men.

CITIES.

Names.	Population.	Remarks.
St. Petersburg . . .	929,000	Founded by Peter the Great in 1703, who compelled a large number from Moscow and other cities to remove to his capital. It is a splendid city, but the climate is intensely severe in winter. The Imperial Library contains 1,000,000 volumes.
Moscow	753,000	The sacred city of the Russians. It contains a noted university founded by the Empress Catharine 1795. Within the Kremlin of the oldest church is the largest bell in the world, 21 ft. high, 22½ ft. in diameter, and weighing 1,600 tons.
Warsaw	432,000	Formerly the capital of the Kingdom of Poland. Renowned for its fairs.
Odessa	217,000	Odessa is the chief sea-port in the south, and is strongly fortified.
Riga	169,000	A great commercial city. Its cathedral has one of the highest towers known; 440 feet high.
Niznei Novgorod . .	17,000	It is celebrated for its annual fair, when 200,000 to 300,000 people assemble. It also contains numerous churches and monuments.
Astrachan	69,000	On an elevated island at the mouth of the Volga. Its fisheries employ 3,000 men.
Wilna	94,000	It has 20,000 Jews. Its manufactures are few but the trade is extensive.
Archangel	20,000	A sea-port on the Dwina river near the White sea. It has considerable trade in linseed, flax, tow, tallow, train oil and feathers. One of the oldest ports in Russia.
Cronstadt	47,000	Founded by Peter the Great 1703. It is one of the strongest fortified cities on the globe, and commands the entrance to St. Petersburg.

HISTORY.

20. The ancients had very little acquaintance with the vast territory included in the vast empire of Russia. It forms a portion of what was called Sarmatia. The natives were wandering tribes of the Slavonic race, and formed the basis of the present inhabitants. The monarchy is usually regarded as having been founded by Ruric, a Norman pirate, about the year 862. Toward the close of the tenth century Christianity was introduced; but from that period down to 1237, when the country was overrun by the Tartars, Russia was the scene of civil war. In 1328 the seat of government was transferred to Moscow; and in 1481 the Tartars were finally expelled. In 1613 the house of Romanoff, which still keep possession of the throne, acquired the supreme authority, and the power of Russia began to be felt and feared by her neighbors. In 1696 Peter the Great ascended the throne, and the destinies of Russia and northern Europe were immediately changed. From this period Russia has continued to increase in power. The Turkish war of 1877-78, and the Nihilistic trouble of 1879 are some of the more recent events. The present Emperor is Alexander III.

CHAPTER XXXIII.

ASIA.

MAP EXERCISES.

Locate the following:

SEAS.

Behring, Ochotsk, Japan, Yellow, East China or Blue sea, South China, Arabian, Red, Mediterranean, Archipelago, Marmora, Black, Caspian, Aral, Dead, Kara.

CAPES.

North East, Chelagskoi, East, Lopatka, Cambodia, Comorin, Pt. de Galle, El Had, Fartak, Romania, Negrais.

GULFS AND BAYS.

Obe, Anadyr, Bengal, Tartary, Petchili, Tong King, Persian, Cutch, Cambay, Siam, Aden.

STRAITS.

Behring, Corea, Malacca, Ormuz, Bab-el-Mandeb, Formosa.

ISLANDS.

Ceylon, Formosa, Hainan, Saghallen, Kiusiu, Nippon, Sikoke, Jesso, Nicobar, Andaman, Maldive, Laccadive, New Siberia, Kurile, Wrangel Land, Loo Choo.

MOUNTAIN RANGES.

Zagros, Himalaya, Karakorum, Kuenlun, Thian Shan, Altai, Eastern Ghauts, Western Ghauts, Elburz, Lebanon, Taursas, Ural, Hindu Koosh, Suleiman, Yablonoi, Stanovoi, Gr Khingan, Peling, Yunling, Nanling.

MOUNTAIN PEAKS.

Everest, Dapsang, Blelucha, Koriask, Sinai, Carmel, Olives, Ararat, Kasbek, Elbrooz.

DESERTS.

Gobi, Thurr, Dahna, Syrian, Iran, Deccan, Pamir, Tundras.

LAKES.

Balkash, Baikal, Lop, Van, Urumiah, Hamoon.

RIVERS.

Obe, Yenisei, Lena, Amoor, Amoo, Indus, Ganges, Brahmaputra, Cambodia, Irrawaddy, Salwen, Euphrates, Tigris, Helmund, Menam, Syr, Yangtse Kiang, Hoang Ho, Pei Ho, Tarim, Irtysh.

TOWNS.

Mecca, Medina, Muscat, Mocha, Jerusalem, Beyroot, Nikolaiefsk, Tashkend, Tobolsk, Khiva, Bokhara, Teheran, Bushire, Kelat, Cabool, Scutari, Smyrna, Trebizond, Damascus, Er Riad, Nankin, Hangchow, Shanghai, Ningpo, Foochow, Amoy, Canton, Macao, Hong Kong, Lassa, Yeddo, Yokohama, Caloutta, Bombay, Madras, Benares, Delhi, Colombo, Bangkok, Mandelay, Rangoon, Singapore, Hue, Hakodadi, Cashgar, Pekin.

COUNTRIES.

China, Japan, Persia, Arabia, India, Afghanistan, Beloochistan, Turkistan, Thibet, Turkey, Hadramaut, Oman, Yemen, Hedja, Syria, Nedjed, Mongolia, Corea, Siam, Anam, Cochin China, Manchooria, Napal, Bhotan.

MISCELLANEOUS.

What capitals are near the 40° of latitude? What important cities on or near the Tropic of Cancer? What place in Asia has midnight when it is noon at Washington? What capitals near the meridian opposite to Washington? What bodies of water and what countries are crossed by the 50th meridian east longitude? By 70°?

RELATIVE POSITION.

In what direction is Ceylon from Arabia? from Lake Balkash? Gulf of Cutch? Pekin? Japan from Kamtschatka? Anam? Arabia? Tobolsk? Philippine Islands? Hue from Mecca? Ceylon? Jerusalem?

TRAVELS.

What countries would you cross in traveling by land from Arabia to Farther India? to Liberia? to China? from Bushire to Cashgar? to Hue? to Smyrna? to Mecca? On what bodies of water would you sail in going from Pekin to Bushire? to Calcutta? to Constantinople? to Nicolaieff? to Bangkok? from Rangoon to Yokohama? to San Francisco? to New York? to London? to Vienna? to Muscat? to Vera Cruz? What change would you have to make in the time of your watch in going from London to Calcutta? from Calcutta to Mecca? to Sydney, Australia? to San Francisco? What change of time and date in going from Pekin to Portland, Oregon?

DESCRIPTION.

POSITION.

1. (1) It is bounded on the north by the Arctic ocean and Europe; on the east by the Pacific; on the south by the Pacific and Indian oceans; and on the west by Europe, the Mediterranean and Red seas, and the Isthmus of Suez.

(2) Latitude and longitude. In latitude it extends from 1° north to 78° north, and in longitude from 26° east, to 170° west of Greenwich.

EXTENT.

2. Its greatest length from east to west is 7,600 miles, and greatest breadth 5,160 miles. Area, 17,100,000 square miles, or one-third of all the land of the globe.

Distance from Constantinople to	Miles.	Distance from Babylon to	Miles.
Babylon	1,000	Nineveh	250
River Indus	2,300	Mouth of Ganges	2,600
Jerusalem	700	Jerusalem	420
Mecca	1,200	Constantinople	1,000
Tobolsk	1,800	Greece	1,500
Nippon	5,000	Rome	2,500

GENERAL OUTLINE OF THE COAST.

3. The coast of Asia is very irregular, abounding in large inlets and correspondingly large projections. Many fine harbors exist. It has more than 33,000 miles of coast line, or one mile to every 528 square miles of surface.

CAPES.

4. The most northern cape is North-east cape; the most eastern cape is East cape; the most southern, Cape Romania; Comorin projects from the south of India; etc.

(The pupil may supply or add other capes, giving their location.)

GULFS AND BAYS.

5. The *Gulf of Obe* is in the north-western part of Siberia, and is tributary to the Arctic ocean. *Petchili* gulf is in the Yellow sea. It receives the Pei Ho and Hoang Ho rivers. The *Persian* gulf lies between Persia and Arabia, and is an arm of the Arabian sea. It receives the Shat-el-Arab, formed by the confluence of the Euphrates and Tigris rivers.

(Let the pupil locate other gulfs and bays in the same manner.)

The following list gives the dimensions and approximate areas of some of the inlets of Asia:

Name.	Length. Miles.	Breadth. Miles.	Approximate Area. Sq. Miles.
Persian Gulf	550	220	100,000
Petchili	150	150	20,000
Obe	480	160 to 200	75,000
Tonquin	300	150	40,000
Siam	500	300	120,000
Bengal	1,200	800	750,000

SEAS.

6. Thirteen seas border upon Asia; besides these are a number of inland seas. The *Red* sea, west of Arabia, received its name from the color of its waters, owing to microscopic plants existing in the water.

Seas.	Length. Miles.	Breadth. Miles.	Area. Sq. Miles.
Yellow	620	400	200,000
Caspian	760	270	240,000
Aral	265	145	24,500
Dead 1,278 feet deep	41	8½	489
Red 600 feet deep	1,450	80 to 200	185,000
Japan	600	500	200,000

CHANNELS, STRAITS, ETC.

7. The strait of Bab-el-Mandeb separates Arabia from Abyssinia, and connects the Red sea to the Gulf of Aden. Behring's strait separates North America from Asia, and connects, etc.

Name.	Width. Miles.	Length. Miles.
Bab-el-Mandeb	20	
Malacca	25	520
Ormuz	30	150
Yesso	12	
Formosa	90	
Behring's	36	
Tartary	50 to 200	400
Corea	120	

ISLANDS.

8. Many of the islands of Asia are important. The following are the principal :

Name.	Length. Miles.	Breadth. Miles.	Area. Sq. Miles.	Population.	Produce and Remarks.
Formosa . . .	245	100	14,982	3,000,000	Wheat, rice, sugar cane, petroleum, figs, oranges, peaches, and sulphur.
Hainan . . .	200	115	12,000	1,000,000	Timber, pearl, wax, coral, and salt.
Ceylon . . .	271	137	24,700	2,407,000	Coffee, plumbago, cinnamon, tobacco, rice, gold and iron.
Loo Choo . . (36 Isles.)	65	13		167,000	Provisions, live stock, tin, copper, salt, and sulphur.
Andaman . . (six Isles.)			2,550	13,500	Sterile soil, and inhabited by a very degraded race of savages.
Nicobar . . .			1,260	6,000	Tobacco, sugar, cocoa-nuts, oranges, and bamboos.
New Siberia.	75	30			Curious vegetable and animal fossil remains. (Sterile, frozen region.)
Saghalien . .	514	17 to 28	47,500	13,000	Lignitic coal. (Severe climate.)
Jesso	290	245	62,500	120,000	Wheat, rice, hemp, tobacco; fruits, and dried fish. (Volcanic.)
Nippon . . .	900	280	80,000	25,156,000	Tea, rice, cotton, sugar, and fruits.
Japan. . 3,850			155,500	33,110,000	Silk, tea, Japanned ware, and fish.

PENINSULAS.

9. *Arabia, Asia Minor, Hindoostan and Farther India* are the leading peninsulas. *Corea* is 600 miles long, and 130 wide, and contains 80,000 square miles. It has a cold climate, and is noted for its breed of dwarf horses three feet high.

Kamtschatka is a volcanic projection from Siberia. Its climate is cold and soil sterile. *Asia Minor* is the western-most projection of Asia, and is an extensive region.

Peninsulas.	Length. Miles.	Breadth. Miles.	Area. Sq. Miles.
Arabia	1,400	800	920,000
Hindoostan	1,870	1,575	1,280,000
Farther India	2,000	1,200	822,000
Kamtschatka	800	280	200,000
Corea	600	135	80,000
Asia Minor	700	420	270,000

GENERAL CHARACTERISTICS OF THE SURFACE.

10. The physical features of Asia are grand and remarkable. In the center is an immense plateau, consisting of naked mountains, enormous rocks, vast deserts and plains.

In these elevated regions, the great rivers which flow north into the Arctic ocean, or south and east into the Indian and Pacific oceans, have their sources. Here, also, the chief ranges of mountains in Asia form a stupendous rampart from which others branch out and extend over the country. Here are the lofty *Himalayas*, the most gigantic pile of rock on the globe, many of whose colossal peaks are almost lost to sight as they seem to penetrate the sky itself.

The *Altai* mountains separate the great Siberia and its cold from central Asia.

11. The following table exhibits the names of the principal mountain ranges with their mean height:

Name.	Mean height. Feet.
Himalaya ("the abode of snow")	16,000 to 18,000
Altai (i. e. Golden Mountain)	8,000
Lebanon ("the white mountain")	7,000
Thian Shan (celestial mountain)	18,000
Kuenlun	18,000
Hindoo Koosh	18,000
Karakorum	18,000 to 19,000
Taurus	9,000 to 19,000
Ghauts, Eastern	3,000 to 19,000
Ghauts, Western	5,000 to 19,000

MOUNTAIN PEAKS.

12. Many of the peaks of Asia are interesting because of the historical incidents connected with them. Near the Isthmus of Suez is *Mount Horeb*, upon which God appeared to Moses and commanded him to deliver his countrymen; and *Mount Sinai*, upon which he gave the law. *Mount Ararat* is in Armenia, upon which the ark is supposed to have rested after the flood. *Mount Hermon*, in the north of Pales-

tine, is associated with the division of the promised land among the twelve tribes of the Children of Israel, and *Mount Carmel* is where the prophet Elijah triumphed over the priests of Baal.

Name.	Height.	Name.	Height.
Nandi Devi	26,662 feet.	Sinai	9,300 feet.
Everest	29,000 "	Carmel	1,500 "
Dhawalagiri	26,826 "	Hermon	11,000 "
Kanchinjanga	28,156 "	Ararat	17,300 "
Dapsang	28,278 "	Kasbek	16,545 "
Fusiyama	14,177 "	Elbrooz	18,570 "
Nebo, or Pisgah	2,700 "	Horeb	8,593 "
Koriask	10,000 "	Adams	7,380 "

Asia has few volcanoes, though its islands are crowded with them.

PLAINS, ETC.

13. Notwithstanding the enormous elevation of Asia, it is a flat country, consisting of a prodigious plain whose mean elevation is not more than 1,150 feet. All of that vast tract north-west of the Thian Shan and north of the Altai has a mean elevation of 200 to 1,200 feet. Much of the southern part is flat. The table-lands of Asia, like all its other physical characteristics, are gigantic.

The *Pamir* plateau, sometimes called the "Roof of the World," is 16,000 feet above the sea-level, and is the highest plateau on the globe. From this all the principal mountain chains diverge.

Gobi ("sea of sand") is an extensive sandy plain in the northern part of the Chinese empire; it contains a few oases; a portion of it is supposed to be the depression of a large inland sea now dried up. Its average elevation is 3,000 feet, and is 1,200 miles long and from 500 to 700 broad.

The plateau of *Iran*, occupying 170,000 square miles, has a mean elevation of 4,000 to 7,000 feet. *Thibet* contains 760,000 square miles, and is 15,000 feet above sea-level. Other important plains are as follows: Thurr, Dahna, Syrian, Deccan.

OBJECTS OF INTEREST.

14. Asia is one of the most interesting parts of the world. Here our first parents were created; here was the paradise of Eden, and from thence the whole human family is supposed to have spread. Here nearly all the scenes of the Bible transpired. Its historical features will always make it interesting.

There are many fine landscapes and sublime places among its mountains and rivers, but these do not form its chief attraction. The Holy Land, the ruins of Babylon and Nineveh, and other places are visited by thousands yearly.

The "Wall of China" is one of the greatest works of ancient times. It is 1,250 miles long, fifteen to thirty feet high, twenty-five feet wide at the base, and fifteen at the top. Towers occur every 300 feet. It was built 215 years B. C., and employed several million men five years in its construction.

LAKES.

15. The lakes of Asia are not numerous, and are mostly small in size, and with but few exceptions are salt.

Name.	Length. Miles.	Breadth. Miles.	Area. Sq. Miles.	Remarks.
Baikal . . .	397	45	12,500	1,309 feet above sea-level. Frozen from November to April. Scene of volcanic action.
Balkash . .	345	55	17,000	Shallow and is surrounded by uninhabited country.
Issik . . .			2,400	5,300 feet above sea-level.
Hamoon . .	70	15 to 20	1,200	Eastern part shallow; increasing in size.
Poyang . .	80	40	2,500	
Tungting .				
Van . . .	70	50	2,000	Salt.
Urumiah . .	70	30	1,800	Its water is very salt.

RIVERS.

16. The southern and northern portions of Asia are well watered. The central portion is wanting in rivers of note. The following are the principal:

Name.	Length. Miles.	Area Basin. Sq. Miles.	Miles of Nav.	Remarks.
Lena	2,400	800,000	800	Rapid and turbulent. Because of its destructive effects it is called "China's sorrow."
Hoang Ho (Yellow)	2,700	714,000		
Yangtse Kiang. . .	3,000	950,000	700	This is the most beloved by the Chinese, and is called "Son of the Ocean."
Pei Ho	350	200,000	180	(1.) This river is said to have eighty mouths. (2.) It rises 13,000 feet above the sea-level; receives eleven tributaries larger than the Rhine. Its annual overflow begins about the first of May and continues till April. The bore rushes up the river eighteen miles per hour.
Ganges	1,960		1,500	
Obe	3,000			Fish are very abundant.
Yenisei	2,500	1,000,000		It is of great breadth, but flows through a frozen region.
Amoo	1,300			A rapid and broad stream. Largely used for irrigation. Lower part navigable. Changes its course frequently.
Amoor	1,500		1,500	Navigable its entire length, except winter.
Brahmaputra . . .	1,800			Overflows its banks annually.
Cambodia	1,800			Contains much fine scenery.
Jordan	200			It has many cataracts. Its valley is about five miles wide, hemmed in by precipices.
Irrawaddy.	1,200		800	From one to four miles wide. Its delta contains 10,000 square miles
Euphrates	1,800		1,195	In some places it has lofty and precipitous banks.
Tigris.	1,150		295	Rafts supported by inflated skins are used in navigation. Flows through a mostly sterile region.
Indus	2,000			An extremely muddy stream; it discharges 150,212,979,000 tons of earth each year. It is broad and shallow, and shifting sand-bars obstruct navigation.
Tarim				Empties into Lop Lake.
Nerbudda	620			It is a broad stream, but navigation is impeded by shallows and rocks.

SOIL.

17. But little more than one-third of Asia is tillable land. Nearly all of Siberia is a frozen plain. Arabia, and all that vast region of Asia

lying south of the Caspian and Aral seas and the Altai mountains, and north of the Himalayas, has for the most part a poor soil. Portions of India are unfit for cultivation. But the greater part of India, Farther India, and China proper, are very fertile. Many of the river valleys are highly productive, and are well filled with a busy population.

CLIMATE.

18. Asia, from its vast extent, stretching from the Arctic regions almost to the equator, possesses every variety of climate. In Siberia the cold is intense. North of 56° north latitude the ground is always frozen. A temperature of 90° below zero is an annual occurrence, and the ground, in places, is frozen to a depth of 700 feet. In the north, at Yakootsk, the temperature averages one degree above zero, the second coldest place in the world.

In central Asia, upon the lofty table-lands, the climate is cold because of the great elevation.

On the Persian gulf the heat becomes extreme, the thermometer sometimes reaching 125 degrees in the shade.

Mecca is regarded by some as the hottest place on earth, owing to the bleak rocks behind reflecting the heat of the sun.

The *Monsoons* occur in south-eastern Asia; they blow from the south-west from April to October, and from the north-east from October to April.

They are caused as follows: The high plateaus of central Asia become so cold in winter that the air over them is much heavier than that of the surrounding lowlands, hence the cold air rushes out over the lowlands, forming the north-east monsoon in southern Asia. During the summer, on the contrary, the plateaus become intensely heated, and the surrounding cooler air flows in, producing the south-west monsoon in southern Asia. The changing of the monsoons is often accompanied by violent storms of thunder and lightning.

There are many rainless regions in the interior. The great mountains on the south prevent the south winds, laden with moisture, from distributing their rains on the interior.

The greatest rain-fall in the world occurs just south of the Himalaya mountains; 610 inches fall on an average annually. The average rain-fall of the peninsula of Hindoostan is 117.5 inches; of Ceylon 91.7 inches; of Canton 69.23 inches.

VEGETATION.

19. The vegetation is greatly diversified from the creeping lichens of the north to the splendid productions of the equatorial regions. Many of the finest cultivated flowers in Europe and America had their origin here. The forests abound in useful woods, including the far-famed cedar of Lebanon, the teak, the cypress, etc.

Among the aromatic plants are the cinnamon, camphor, and cassia.

Among the fruits, besides those common to our climate, are the orange, lemon, pomegranate, tamarind, etc. A large portion of our

choicest garden flowers are also from Asia. The grape, sugar cane, cotton, wheat, rye, oats, barley, and millet are all indigenous to this quarter of the globe, and are largely cultivated.

Tea is little produced but in Asia, and the finest coffee in the world is the product of Arabia.

In Persia large fields of roses are cultivated, from which is obtained the "ottar of roses." Various gums and spices are obtained in western Asia.

MINERALS.

20. The mineral treasures of Asia include the finest precious stones, gold, silver, and other metals. Diamonds are found in Decan, Ceylon, Ural mountains, and other places. Burmah is celebrated for its rubies and sapphires. Gold is most abundant in the Altai mountains.

Silver is obtained in China, Anam, Siberia, Japan, and western Asia. Tin in the Malay peninsula, China, Japan and some other islands. It is said that the Malay peninsula and the surrounding islands furnish nearly one-half of the tin used in all the world.

Copper and iron in Siberia, Japan, Hindoostan, Anam, Persia, Thibet and Turkey.

Coal and petroleum have been discovered in China and Bengal, but the inhabitants have never utilized them to any extent.

Marble, of great beauty, exists in Persia, some of which is so transparent that it is used for window lights.

We know but comparatively little of the mineral wealth of Asia, and our knowledge of its distribution is yet very imperfect.

ANIMALS.

21. The animal kingdom is greatly varied. Here are found not only beasts and birds common to Europe, but the rhinoceros, elephant, tiger, wild hog, yak, gazelle, hyena, tapir, wolf, ox, buffalo, goat, sheep, wild ass, monkey, ostrich, etc., are natives of Asia. Here, also, is the original home of the horse, the camel, the pheasant, the bird of Paradise, and the peacock, as well as that of our common barn-yard fowls. In south-eastern Asia birds of the most gorgeous plumage abound.

MANUFACTURED PRODUCTIONS.

22. The Chinese and Japanese are the principal states engaged in manufacturing. They excel in the manufacture of silks, laces, satins, linens, cottons, and pottery.

The Persians make the finest shawls and carpets in the world.

The Asiatics know but little about the use of machinery. In fact, they have a kind of natural repugnance to modern inventions, which makes it very difficult to introduce the improved tools and machinery of the more civilized nations of Europe and America. However, the skill with which they do their work is truly wonderful.

Nearly every article of manufacture is made by hand or with the rudest tools. Very fine sword blades are made in Persia and Japan.

Calico is said to have been made first at Calicut, on the south-western coast of India, whence it derived its name.

The Chinese and Japanese work extensively in carving ivory, wood and stone; and in engraving, but without any design. The art of printing was known to the Chinese as early as the sixth century A. D.; they also invented paper, gunpowder, the compass, and other useful articles.

COMMERCE.

23. The commerce of Asia is considerable. It is carried on chiefly with Great Britain, Japan, East India, and the United States. The Asiatics own but few large vessels. The chief sea-port of China is Shanghai. Its commerce amounts to more than all the other ports combined. Yokohama is the chief port of Japan, and Calcutta of India; Mecca, Smyrna, Saigon, Rangoon, Madras and Bombay are also very important marts.

The leading exports are raw silk, silk piece-goods, tea, sugar, mats, matting, China ware, rice, coffee, drugs, spices, aromatics, precious stones, etc.

The imports are opium, cottons, woollens, raw cottons, metals, coal and ginseng.

The following table exhibits the commercial state of the principal Asiatic countries:

Countries.	Exports.	Imports.	Exports to United States.	Imports from United States.
China	\$135,000,000	\$117,000,000	\$18,000,000	\$1,666,000
Japan	29,000,000	33,000,000	6,500,000	1,800,000
Persia	10,000,000	11,000,000		
British India	379,000,000	311,000,000	15,000,000	10,000,000

NATURAL ADVANTAGES.

24. The agricultural advantages have been noted under soil and climate. The commercial facilities are excellent along the coast, and many of the rivers are navigable; but in this respect it is still far surpassed by Europe and America. Owing to the great size of the continent, large portions of the interior are situated so far from the sea as to be almost entirely cut off from the advantages of oceanic commerce. Its lakes are few and for the most part are unimportant as high-ways of trade.

The interior is ill adapted to manufacturing; (1) for want of water power, (2) for want of transporting facilities. There is an abundance of minerals, and this would be favorable if other conditions were not wanting. Hence, the manufacturing interests can be well developed only along the coast.

INTERNAL IMPROVEMENTS.

25. There are numerous canals, especially in China. The Imperial Canal, 650 miles long, is one of the largest canals in the world.

In 1878 there was but one railroad in China, and that was purchased by the government and destroyed because of blind superstition. The popular feeling in regard to railways has changed, and there is now a desire for railroads. There are now several short roads in various parts of China and other countries of Asia.

Of late years Japan has made great progress in adopting the manners and customs of Europe and America. Railroads, post-offices, telegraph lines and improved machinery have all been quite recently introduced, and are now found in all parts of the empire. Schools of high order have been established and supplied with teachers from Europe and the United States. The outlook for Asia is favorable.

RACES.

26. Three races occupy this grand division. The *Caucasians* occupy the western part and India; the *Mongolians* the eastern, and the *Malays* the Malay Peninsula. There are many *Jews* in Turkey and Arabia.

NUMBER OF INHABITANTS.

Countries.	Area. Sq. Miles.	Population.
Siberia	6,200,000	11,500,000
Turkestan	106,000	2,730,000
Turkey	743,000	17,880,000
Arabia, "west," or "merchandise traffic,"	968,000	3,700,000
Persia	636,000	6,000,000
Afghanistan	279,000	4,000,000
Beloochistan	107,000	350,000
India	1,577,000	252,000,000
Birmah	190,000	4,000,000
Anam	198,000	21,000,000
Siam	309,000	5,750,000
Chinese Empire, (the middle nation,)	4,560,000	434,000,000
Japan, "root of day," or "sunrise nation,"	146,000	34,338,000

OCCUPATION.

27. The people are chiefly engaged in agriculture, though their mode is rude.

The Emperor of China, to show homage to this pursuit, once each year with his own hand plows a furrow.

Manufacturing is extensively carried on by the Chinese and Japanese. The fisheries are important. The pearl fisheries on the south-eastern coast and on the islands are found to be profitable, and employ many people.

Mining is not pursued very extensively, though minerals of all kinds are abundant.

LANGUAGES.

28. Quite a number of languages and dialects (937) are spoken in Asia; the Chinese language is spoken by one-half the whole population.

There is the same written language throughout the Chinese Empire, but nearly every province speaks its own dialect. There is a character for each word, and in reading a Chinese book you begin at the bottom and read toward the top. The language of the Chinese, like their customs, is the same as it was 2,000 years ago.

In the English colonies the English language is extensively used and bids fair to become the dominant language of Asia.

The Russian tongue is used largely in Siberia. There are, also, some other European tongues spoken in various parts, but to a limited extent only.

GOVERNMENT.

29. There are six independent governments in Asia, all of which are absolute monarchies, viz.: China, Japan, Anam, Birman, Siam, and Persia. Siberia belongs to Russia. Turkey and Arabia are chiefly subject to Turkey in Europe.

In some places there are roving tribes under no permanent government, and are not recognized among the governments of the world.

The French own a small tract in the southern part of Farther India. The remainder of Asia is subject to the English.

EDUCATION.

30. Excepting Japan, but little progress is made in education.

Throughout the Chinese Empire there is great respect paid to letters, but their literature, science, and arts have remained fixed for ages. Day schools are common. The government appoints boards of examiners, but otherwise does not assist in the education of the people.

In general the masses are very ignorant, and in western and southern Asia the condition of the people, in most places, is degradingly low.

RELIGION.

31. The religion of Asia may be divided into three classes: Buddhism in China and Japan; Brahminism in India; and Moham-
medanism in western Asia. There are about seven and one-half
millions of the Greek church, four and one-half millions of the Roman
Catholic, and five hundred thousand Protestants. Nearly every edu-
cated Chinamen is an atheist. Many missionaries of different denomi-
nations are laboring in many parts, and converting great numbers.

CITIES.

32. The large cities of Asia are numerous, and many of them im-
portant. In most cases the cities have narrow, crooked, unpaved, and
undrained streets. The stench is often horrid and disgusting. Nearly
all the important cities are enclosed by walls, in which are gates guarded
by sentinels.

Pekin (500,000 inhabitants) consists of two cities, twenty-five miles
in circuit, and whose walls are thirty feet high, and twenty-five feet
thick, having sixteen gates.

Canton (1,500,000 inhabitants) is one of the oldest cities in China.
The streets are very narrow, on an average seven to eight feet wide.
There are no wheel carriages. It is frequented by a prodigious number
of boats, sometimes amounting to 100,000 at one time.

Foo Chow (600,000 inhabitants) has extensive manufactures of cot-
tons and porcelain. Valuable lead mines exist in this vicinity.

Nankin ("Mouth of Commerce") is situated 700 miles from the
mouth of the Yangtse Kiang. Its population is variously estimated
from 500,000 to 3,000,000.

Shanghai, a sea-port of China, numbering 278,000 inhabitants, is
extensively engaged in the manufacture of silks, muslins, glassware,
paper, and artificial flowers. It has three daily and two weekly Eng-
lish newspapers.

Hong Kong (170,000 inhabitants) is a sea-port of China. It belongs
to the British. Other cities of Asia are

Cities.	Population.	Remarks.
Ningpo . .	120,000	Manufactures carved goods, embroidery, jewelry, etc.
Kashgar . .	70,000	It exports brick, tea, silks, porcelains, etc.
Nankin . .	500,000	Contains many objects of great interest.
Tientsin . .	930,000	It is a great <i>entrepot</i> for salt.
Yeddo . .	780,000	The capital of Japan.
Yokohama . .	62,000	The seaport of Yeddo.
Osaca . . .	530,000	It has 1,100 bridges and 1,900 places of worship.
Kioto . . .	567,000	Literary center, manufactures porcelain, silks, cutlery.
Hakodadi . .	112,000	Deep and spacious harbor; little commerce.
Nagasaki . .	70,000	Extensive trade in pottery.
Bangkok . .	600,000	(Indo-China), situated in a marshy but healthy region.
		Manufactures fire-crackers.
Hue . . .	100,000	Strongly fortified in the European style.
Saigon . . .	90,000	Regularly built and strongly fortified.
Mandelay . .	90,000	It has palaces, pagodas and convents.
Singapore . .	56,000	"City of the Lion," an important commercial city.
Calcutta . .	892,000	(Indo-British), seat of an immense trade, and capital of British-India.
Bombay . . .	753,000	Has a large Hindoo library and several scientific schools
Madras . . .	406,000	Stores and public offices are imposing structures.
Delhi . . .	155,000	It contains the palace of the Great Mogul, the most remarkable in India, and the celebrated Jamma Mosque.
Lucknow . .	285,000	Celebrated for its handsome palaces, mosques and tombs.
Colombo . .	97,000	Capital; principal commercial emporium of Ceylon.
Cashmere . .	51,000	It is picturesque in situation, and is widely celebrated for its shawls, silks, rose ottar, and floating gardens on the lakes near by.
Benares . .	208,000	The religious capital of the Hindoos.
Patnia . . .	158,000	Contains fine churches and mosques.
Cabool . . .	60,000	Capital of Afghanistan.
Kelat . . .	45,000	Capital of Beloochistan.
Mecca . . .	45,000	Supposed to contain the well from which Hagar obtained the water for Ishmael.
Muscat . . .	35,000	It is visited annually by 100,000 to 200,000 pilgrims.
		It is the birthplace of Mohammed.
Jerusalem . .	25,000	It is near the Dead sea, and was formerly the capital of the Jewish people.
Smyrna . . .	150,000	An important town on the Mediterranean.
Medina . . .	20,000	Contains the tomb of Mohammed.
Beyroot . .	100,000	Celebrated for its remains of antiquity.
Khiva . . .	6,000	One of the capitals of Turkestan.
Bokhara . .	30,000	It has 335 mosques of great architectural beauty, and eighty colleges. The seat of Mohammedan learning.
Teheran . .	200,000	Very unhealthy.
Bushire . .	20,000	Built of white stone, and presents a fine appearance.
Trebizond . .	40,000	An important seaport on the Black sea.
Er Riad . .		
Bagdad . . .	40,000	Noted for its many slaves and white donkeys.
Damascus . .	150,000	Beautiful situation. The oldest existing city in the world. Founded 2,000 years B. C.
<i>Siberia</i> . .		
Tashkend . .	86,000	
Tobolsk . .	17,000	Streets regular, and the city presents a fine appearance.
Tiflis . . .	104,000	
Kiachta . .	4,000	

HISTORY.

We are entirely indebted to the Bible for the history of the early ages of the world. The Creation, which consisted in a new arrangement of the seas and continents of the earth, with the production of races of animals and vegetables, took place many thousand years ago.

Adam and Eve were the first human pair, and from them have sprung all the nations of the earth. The descendants of Adam, living in western Asia, and probably in the valley of the Euphrates, increased rapidly, and spread over a great extent of country.

They became very wicked, and in the year 2348 B. C. they were all destroyed by a Flood, or Deluge, with the exception of Noah and his family, who were saved in the ark. The descendants of Noah again peopled the valley of the Euphrates, where they undertook the construction of an immense edifice, called the Tower of Babel.

In the midst of their work a strange confusion of languages occurred, so that the artisans could not understand each other. This led to a dispersion of a large portion of the people. Some migrated westward and settled in Egypt and Europe; some proceeded eastward, and established themselves in China and other countries, and, at last, in America. Still multitudes remained in the Euphrates; and here the Empire of Assyria was founded, 2221 B. C. Its capital was Nineveh, situated on the eastern side of the Tigris. Assyria became an immense empire and conquered the surrounding countries, including the great city of Babylon, on the Euphrates, about 250 miles south of Nineveh. In the year 536 B. C., Babylon, Assyria, and all the surrounding countries, were conquered by Cyrus, king of Persia. In the year 331 B. C., Alexander, of Macedon, conquered Persia and the greater part of western Asia.

In a short space of time his empire was broken up, and the various countries of western Asia became distributed among different sovereigns. The Romans got possession of these territories, and their dominions passed to the Greek empire. In the sixth and seventh centuries, A. D., most of these were wrested from it by the Saracens. In the twelfth and thirteenth centuries the Turks became masters of this portion of the world, which they retain at the present day. The history of northern and eastern Asia is less interesting. Nearly one-half of the territory, including Siberia and Tartary, called Scythia by the ancients, has continued from the first dawn of history to the present time, to be occupied by various tribes; some of them nomadic, or pastoral, and living upon their flocks; and others war-like, occasionally bursting their boundaries and carrying destruction and desolation over the more southern and western portions of the continent. From these regions have issued those terrific conquerors, Zingis Kahn, in the thirteenth century, and Timour, or Tamerlane, in the fourteenth century.

China has continued, from age to age, with less change than any other kingdom on the face of the globe. The countries of Farther India were not known to the ancients, and their modern history only is preserved. In general it may be remarked that not only the human race, but the great religions, and the various institutions of society, connected with government and law, had their beginning in Asia, and have thence been spread over the world.

ANCIENT GEOGRAPHY.

The term Asia was originally applied only to the western portion of Turkey, now called Asia Minor. The whole of eastern and northern Asia was unknown to the Greeks, who were not aware of the existence of such a country as Hindoostan till the conquest of Persia by Alexander.

CHAPTER XXXIV.

SIBERIA.

MAP EXERCISES.

Locate the following :

CAPES.

Northeast, Chelagskoi, East, Lopatka.

GULFS.

Obe, Taimyr, Anadyr, Tartary, Yenisei.

SEAS.

Caspian, Aral, Kara, Okhotsh, Behring.

ISLANDS.

New Siberia, Saghalien, Kurile.

MOUNTAINS.

Ural, Yablonoi, Stanovoi, Altai, Alexander Range, Alatau, Blelucha.

LAKES.

Balkash, Zaizan, Baikal.

RIVERS.

Obe, Tobol, Irtysh, Syr, Yenisei, Middle Tungouska, Olenek, Lena, Anadyr, Amoor.

Where is the Tundra? Between what parallels of latitude does Siberia lie? Between what meridians of longitude? In what zones? By the scale of miles, what is its greatest length? The greatest breadth? At what point in Siberia does the sun remain above the horizon the longest? What is now the time of day at Irkoutsk?

DESCRIPTION.

SURFACE.

1. The south-western part is broken into precipitous mountains, small table lands, and valleys of the most picturesque and romantic description. The remainder is a flat, desolate region, with but little to break the dull, silent monotony. The eastern portions are crossed by several mountain ranges. In the north are extensive frozen marshes called *tundra*. They are covered with moss, and nearly destitute of trees.

CLIMATE.

2. The climate is excessive. The cold of the winter is extreme, and the heat of the summer very great. The cold increases toward the east. The temperature is sometimes 60° to 70° below zero, while the average temperature in the north is about 1° below.

SOIL.

3. In Circassia and Georgia there is much fertile soil; in a few other places there is productive land, but in general the whole country is barren.

LAKES.

4. *Balkash* is a large lake in the south, surrounded by uninhabited wastes. It is salt. *Baikal* is the largest lake, having an area of 12,500 square miles. It is frozen from April to November, and its waters are full of valuable fish, which yield large quantities of oil. Earthquakes are frequent in the vicinity. *Zaizan* is the only other lake of great size; its length is eighty miles and breadth twenty. It receives numerous rivers.

RIVERS.

5. The large rivers are serviceable in steam navigation. However, they are frozen more than one-half the year. They yield an incredible quantity of fish. The *Obe*, *Yenisei* and *Lena* rank among the largest rivers of the world.

VEGETATION.

6. In the Steppe region of the west, grassy prairies alternate with reedy marshes; fresh lakes with salt; and rich, arable land with extensive forests. Parts of this region in summer present fine park scenery, in which beautiful wooded hills rise from grassy plains covered with flowers. The productive land of Siberia is said to equal twice the area of Great Britain. The grains are chiefly wheat, barley, oats and buckwheat. Turnips and other vegetables thrive in the temperate climates.

ANIMALS.

7. Cattle, sheep, horses and camels are among the domestic animals. The dog is used to draw the sledge. The wild animals are deer, bear, foxes, sables, martens, beavers, wolves, lynx, squirrels, wild hogs, etc. The Bengal tiger is sometimes found in the south. Ducks, geese, swans, woodcocks and partridges are also common.

MINERALS.

8. One of the leading sources of wealth to Russia are the minerals of Siberia. Gold is obtained in the Ural mountains. Copper and

iron are plentiful. Cobalt, antimony, zinc, and mercury are also met with.

MANUFACTURES.

9. A remarkable spirit of enterprise is springing up in this line of industry. The manufactures consist of cotton and woolen cloths, linens, glass, leather, and earthenware.

COMMERCE.

10. The internal commerce is considerable, consisting in the exports of skins, furs, cattle, fish, tallow, and soap. The imports are tea, cottons, woollens, silks, sugar, fruit, grain, etc

INHABITANTS.

11. It is estimated that three-fourths of the entire population of Siberia is Russian, either emigrants or exiles banished thither by the Russian government for crimes committed. The whole population is 11,500,000, scattered over an area of 6,202,000 square miles.

RELIGION, ETC.

12. The great majority of the people belong to the Greek church, but there are also many Roman Catholics, Mohammedans, Pagans, and some Protestants. The Russian language is spoken generally, but there are many dialects. The great mass of the people are very ignorant. They are obedient subjects to the Russian government.

CITIES.

13. *Tobolsk* is the capital, where most of those exiled by the Russian government live. Many of them are doomed to toilsome service in the mines, or in fur hunting. The city is well built, and has abundant provisions for education. *Irkoutsik* is the great *entrepot* of the trade of north-eastern Asia. The trade with China is extensive. *Nicolaieff* is a growing town on the Channel of Tartary. *Tashkend*, in the south-west, is surrounded by a high wall with twelve gates. The city has canals, a garrison, and many mosques. *Tiflis* contains a celebrated Armenian cathedral, besides some schools of note.

POPULATION OF THE LARGER CITIES.

Tobolsk	17,400	Irkoutsik	32,000
Tashkend	86,000	Tiflis	114,000

HISTORY.

14. Of the early ages of Siberia we have no account. It is probable that its first inhabitants were similar to those that now roam over its surface. Western Siberia was conquered by the Mongols in 1242. In 1563 it was claimed as

a part of the empire of the Czars. Tobolsk was built in 1587. In 1598 the people generally had submitted themselves to Russia. In 1706 Kamtschatka was finally explored, and in 1727 Behring discovered the strait which bears his name, since which time Russia has been in the quiet possession of Siberia.

CHAPTER XXXV.

TURKEY IN ASIA.

MAP EXERCISES.

Locate the following:

MOUNTAINS.

Taurus, Lebanon, Ararat, Carmel, Tabor, Olives, Gilead.

SEAS.

Black, Mediterranean, Archipelago, Marmora, and Lake Van.

RIVERS.

Tigris, Euphrates, Jordan, Kizil Irmak.

CITIES.

Damascus, Beyrout, Jerusalem, Sinope, Scutari, Trebizond, Bagdad, Antioch, Smyrna, Palmyra.

In what direction is Jerusalem from Bagdad? from Damascus? from Smyrna? from Trebizond? In what zone is Turkey? What is the latitude and longitude of Jerusalem?

DESCRIPTION.

POSITION.

1. Turkey in Asia lies between 30° and 42° north latitude, and between 26° and 48° east longitude. It is bounded on the north by the sea of Marmora and the Black sea, on the east by Persia, on the south by the Persian Gulf and Arabia, and on the west by the Mediterranean and the Archipelago seas.

EXTENT.

2. It is about 1,000 miles long and from 280 to 500 miles wide. Area, 710,000 square miles.

SURFACE.

3. The surface consists chiefly of elevated plateaus. *Mount Ararat*, in Armenia, is 17,300 feet above the level of the

sea. It is supposed that the ark rested upon this peak. The country roundabout is a vast plain. The *Taurus* and *Lebanon* are the chief mountain ranges. *Mount Olympus* and *Mount Ida* are famous peaks; the former is about 9,750 feet high, and is represented by Homer as the "throne of the gods." The latter is 8,000 feet high.

RIVERS.

4. The largest river of Asiatic Turkey is the *Euphrates*, which rises in Armenia, breaks through the Taurus mountains, and after a course of 1,680 miles, empties into the Persian Gulf. It is navigable nearly 1,200 miles, and is noted for its steep banks in several places. The *Tigris* is the chief tributary, and is 1,150 miles long, and admits steamboat navigation 296 miles. The *Kizil Irmak* is the largest river in Asia Minor. The *Jordan* empties into the Dead sea after a course of 120 miles. It contains many cataracts and precipices.

SEAS AND LAKES.

5. The seas bordering on Turkey are the *Mediterranean*, *Marmora*, *Black* and *Caspian*. The *Dead* sea, in Palestine, is 1,294 feet below the sea-level, and is forty miles long, with an average breadth of eight and one-half miles. Its waters are so intensely bitter that no living thing can exist in them. A mountain of salt is on the south-west side. *Lake Van*, the largest lake, is seventy miles long by fifty wide, and contains 2,000 square miles. There are many smaller lakes.

SOIL.

6. The soil is varied; the valleys are quite fertile and the mountain sides furnish excellent pasturage. Still in many places there is much poor land.

CLIMATE.

7. The climate of a country of such vast extent, and of such varied surface is, of course, marked with great diversity. The northern part resembles New England in its rugged character, while the southern parts are like Georgia and Alabama.

AGRICULTURAL PRODUCTS.

8. The products are what might be expected of such a climate. The north produces the grains and fruits of the temperate zone. The oranges, figs, olives, pomegranates and other fruits are very delicious, and form a large part of the staple food of the people. We are indebted to this region for the peach, apricot, mulberry, various melons, and some of the most beautiful garden flowers and plants. The rose is said to reach its perfection here. In addition to these products we have gums, wax, medicinal plants, dye stuffs, silk, etc.

ANIMALS.

9. The camel is a very useful animal. The horse, ox, ass, mule, sheep, hog and dog are also reared. There are also many wild animals.

MINERALS.

10. The mountains contain all the useful metals. However, the mines are not worked very extensively.

COMMERCE.

11. This is quite important, and consists of the following exports: Valerian, madder, opium, raisins, grains, figs, sponges, goat's hair, licorice, olive oil, etc. The imports are cottons, coffee, copper, tin, coal, sugar, indigo, apparel, etc.

INTERNAL IMPROVEMENTS.

12. These are not numerous. Within the last few years several lines of railway have been constructed and others contemplated. There are few public roads.

INHABITANTS.

13. The great variety of races in this country, always preserving their several peculiarities of costume, character, physiognomy, forms one of the most curious features. The Turks, the ruling people, are the most numerous, and are the same in Asia as in Europe. There is a considerable number of Greeks along the coasts of Asia Minor and the contiguous islands. Many Jews and Armenians are found in the commercial cities. The Arabs have spread themselves over Palestine, Syria, and the regions about Bagdad. The total population of Turkey in Asia is 15,715,000, of whom 13,068,000 are Mohammedans.

GOVERNMENT, ETC.

14. Turkey in Asia is subject to the Sultan, of Constantinople, and forms the most extensive portion of his dominion. The education of the people is exceedingly limited, and profound ignorance is a characteristic trait.

ANTIQUITIES.

15. Turkey in Asia has many large towns and cities, some of which, such as Damascus, Jerusalem, etc., are of great antiquity. The greater part, however, are of modern date. In various parts there are ruins of cities which flourished in ancient times, especially those of Palmyra, in Syria, Nineveh, on the left bank of the Tigris, and Babylon, on the Euphrates. The traveler in these regions sees evidences on every side of the revolutions that have occurred here.

Within its limits the greater part of the events recorded in the Bible took place; and here, too, some of the most celebrated warriors of antiquity performed their achievements.

CITIES.

16. *Damascus* is the oldest city in existence, and is the great centre of trade, which is almost exclusively carried on by caravans. It is rich in schools and manufactures, and is embosomed in vast gardens. No wheeled carriages exist, and there are no glass windows to the houses. However, at first appearance the city seems grand.

Ephesus was formerly known as one of the "Eyes of Asia," because of its size and magnificence. *Smyrna*, forty miles to the north, was the other. At Ephesus were the graves of Mary, the mother of Jesus, and her son John, the Revelator.

Jerusalem, formerly the capital and principal city of the Jews, is on a high and rocky hill, thirty-three miles east of the Mediterranean and fifteen miles from the Dead sea. The streets are narrow, crooked, and very dirty. "The Church of the Holy Sepulchre" is said to be built over the exact spot where Christ was buried, and where St. Helena found the cross on which he was crucified. A marble slab, which is supposed to cover the sepulchre, has been worn smooth by the kisses of pilgrims. Jerusalem was once a magnificent city, but is now of little importance, except as a resort for travelers and pilgrims.

Smyrna is the principal sea-port of Asiatic Turkey. It exports Asiatic products, and has many large edifices.

Bagdad is the seat of oriental science and art, and is a great centre of caravan trade.

Trebizond is an important fortified city on the Black sea. At this city Xenophon and the ten thousand reached the sea in that memorable retreat.

Beyrout is a sea-port on the Mediterranean. In addition to its commerce it has extensive manufactures. The following list contains the leading cities and their population:

<i>Damascus</i>	150,000	<i>Brusa</i>	70,000
<i>Smyrna</i>	150,000	<i>Bagdad</i>	67,000
<i>Beyrout</i>	100,000	<i>Erzerum</i>	55,000
<i>Massul</i>	75,000	<i>Trebizond</i>	40,000
<i>Aleppo</i>	75,000	<i>Jerusalem</i>	25,000

HISTORY.

17. *Asia Minor* appears to have been occupied by various tribes at an early age. In the year 450 B. C., no less than thirty distinct nations were embraced within its territory. It appears that the Greeks made settlements here at a very early date. About the year 1190 B. C., the several states of Greece combined to make war upon the Trojans, whose chief city, Troy, lay at the western extremity of Asia Minor. The event is celebrated in Homer's famous poem of the "Iliad." Lydia, under Cræsus, became a powerful kingdom 550 B. C. He conquered a great part of Asia Minor, and even entered into a conflict with

Cyrus, king of Persia, which, however, terminated in the overthrow of the Lydian monarchy. The greater part of the country continued subject to Persia from the time of Cyrus to its conquest by Alexander in the year 331 B. C. It finally came into the hands of the Romans, 63 B. C. In the fourteenth century the Turks established their dominion here and finally made themselves masters of the whole country, as we have related in the history of Turkey in Europe.

We have not space to follow out the history of the different divisions, and will conclude with a short description of Palestine.

This celebrated country, lying at the eastern extremity of the Mediterranean sea, and being 175 miles in length by seventy-five in breadth, has borne various names at different periods. Its earliest title was *Canaan*, from the son of Shem of that name, whose posterity settled here. It was called the *Promised Land*, because it was promised to Abraham and his descendants. It was called the *Land of the Hebrews*, from Eber, the ancestor of Abraham. It was called the *Land of Israel*, from Israel, or Jacob; the *Holy Land*, it being the residence of God's chosen people; *Judea*, from the tribe of Judah; and *Palestine*, from a portion of its ancient inhabitants, the Philistines. The country is covered over with mountains, hills and valleys, most of which are celebrated in the Scriptures. The only river of importance is the Jordan, which empties into the Dead sea. In former times Palestine was a prolific country, its pastures teeming with flocks, its hill-sides clothed with vineyards, and its valleys covered with rich fields of grain. At present the greater part of the country is utterly barren.

The ancient cities have mostly passed away, many of them being converted into heaps of ruins or squalid villages. Jerusalem is an inferior town, having lost its ancient glory. The people of the present time consist of Arabs, Turks and Jews. The latter race have almost wholly disappeared from the land of their fathers, and are scattered over the various nations of the globe, but always maintaining their ancient religion.

CHAPTER XXXVI.

ARABIA.

MAP EXERCISES.

Bound Arabia. What strait connects the Red sea with the Gulf of Aden? The Persian gulf with the Arabian sea?

Name the political divisions; give their location. What mountain ranges? What is their trend? Where is the Syrian desert? The Dahna desert? What two capes project from the southern coast? Locate the following cities: Muscat, Aden, Mocha, Sano, Mecca, Medina, Er Riad. In what direction is Muscat from Mecca? From Mocha? From Jerusalem?

In what zone is Arabia? What cities are on or near the tropic of Cancer? Where is Lake Salumeh?

Between what parallels of latitude, and between what meridians of longitude does Arabia lie? What is the difference of time between Muscat and Jerusalem? Between Mecca and Rome?

DESCRIPTION.

CHARACTERISTICS.

1. Arabia, constituting a head peninsula in the south-west of Asia, is noted for its peculiar race of inhabitants, its remarkable history, and as being the source and center of the Mohammedan religion.

EXTENT.

2. Its length is about 1,400 miles, and the average breadth 800. Area, about 720,000 square miles.

SURFACE.

3. Notwithstanding the interest attached to this country, there is much ignorance with respect to it. It is an arid, sunburnt wilderness. The hills are naked rocks, and the plains are covered with rough stone or drifting sand. Throughout its vast extent there is no mountain of considerable elevation, and no river of any magnitude.

The *Shammar* and *Aared* are the principal ranges. An irregular ridge of barren mountains extend from the frontiers of Palestine to the Indian ocean. These rugged peaks of naked rock afford neither water nor vegetation.

MOUNTAIN PEAKS.

4. Near the Isthmus of Suez is *Mount Horeb*, upon which God appeared to Moses and commanded him to deliver his countrymen; and *Mount Sinai*, upon which he gave the law. These peaks are 8,600 and 9,600 feet high, respectively.

SOIL.

5. The soil, with the exception of Yemen, at the southern extremity, and other places near the coast, consists of either sand or stones, and is unfit for cultivation. There are some cultivated tracts in the vicinity of mountains, the streams from which during the rainy season fertilize the soil. The interior consists mostly of burning deserts of sand, where nothing meets the eye but the uniform horizon of a wild and weary waste. Over the surface of this solitude waves of sand are borne along by violent winds, which often bury the traveler in his route.

CLIMATE.

6. The climate of Arabia is the driest in the world. In the desert parts the dry season is prolonged throughout the entire year. On these plains the heat is excessive. The *simoon*, a hot wind of the desert, blows from the interior toward the coast in all directions. It is unfit for respiration, and all nature seems to languish or expire under its pestilential influence. Muscat is perhaps the hottest place on the

globe, the temperature being generally 100° in the afternoon, and sometimes rises much higher. In the interior radiation goes on so rapidly at times that the air becomes quite chilly.

PRODUCTIONS.

7. The general aspect of desolation in central Arabia is varied by verdant spots called oases. Where the ground affords any moisture that is not swallowed up by the ground, a green island arises in the midst of the desert. Groves of palms spring up, and the animals of the neighborhood resort to the spot, submitting to the control of man with a readiness unknown in other countries. Along the shores of the Red sea, and especially at the southern extremity, the land is watered by copious streams, and the coffee-tree covers the hills. Spices, tobacco, tamarinds, dates, palm, acacia, and various gums, resins and drugs are produced in abundance.

The finest horses in the world are bred here. The wild ass and the camel are the principal beasts of burden. Oxen, sheep and goats are also raised. Apricots, plums, pomegranates and grapes are among the principal fruits.

MINERALS.

8. The minerals are blue alabaster, agates, carnelians, the emerald, the onyx, gypsum, saltpetre, sulphur, naphtha, asphaltum, iron, lead and copper. The mines are not much worked.

ANIMALS.

9. The wild animals are the hyena, panther, ounce, jackal, wolf, fox, wild boar, wild cat, ibex, gazelle and antelope. Among the birds are the eagle, falcon, heron, owl and ostrich. Reptiles are numerous. Locusts often do great damage.

COMMERCE.

10. This is not very extensive, and is chiefly carried on by means of caravans. These are often of enormous size, sometimes numbering 120,000 camels. The coast contains a few good harbors.

The exports are coffee, dates, gum arabic, myrrh, aloes, almonds, perfumery, medicines and pearls. The imports are silver, iron, copper, lead, fire-arms, gunpowder, gold, stoves, amber, ivory, rice, cotton, sugar, etc.

INHABITANTS.

11. The greater portion of the Arabs live a pastoral life, and are called *Bedouins*. They are, for the most part, robbers, though courteous and polite, and hospitable to a proverb. The Arabs have dark hair and black eyes, and are thin, well-formed and active. They number 3,700,000 souls.

RELIGION.

12. Their religion is Mohammedan, which had its origin here toward the close of the sixth century. They are a very ignorant race, having scarcely any schools or books.

OCCUPATIONS.

13. The Arabs are not an industrious people, yet many of them are engaged in the cultivation of the soil and the raising of horses, cattle, etc. The pearl fisheries employ 30,000 men and from 1,500 to 2,000 boats, and yield an annual income of \$1,000,000. The Persian gulf is the seat of this industry.

GOVERNMENT.

14. The western part of Arabia is mainly under the Turkish control. The remaining parts of Arabia are divided in many tribes, and have no well-defined system of government.

CITIES.

15. *Mecca*, celebrated as the birthplace of Mohammed, and the holy city of his followers, is the principal city of Arabia. To this place every Musselman is required to make a pilgrimage at least once during his life. Its chief ornament is the famous mosque, in the centre of which is the *Kaaba*, a temple said to have been built by Abraham. At the time of the pilgrimage, Mecca presents the appearance of an immense fair. It has no industry, the only manufacture being that of chaplets. Provisions and even water are imported from a distance. Population, about 30,000.

Medina is remarkable as being the seat of the Arabian empire under Mohammed, and the place of his death. It contains his tomb. It is surrounded by a wall forty feet high, and has three gates, one of which, called the "Egyptian Gate," is noted for its beauty. The population is about 20,000.

Muscat is a city of great commercial importance. Its trade is largely with the English. The wealth of the city is enormous, but the general appearance of the city does not correspond with this; there are few good houses. The heat is extreme, the thermometer seldom falling below 90° in the shade. The whole number of inhabitants is variously estimated at from 25,000 to 60,000.

Sana, the capital of Yemen, has some trade, and contains many richly decorated mosques. Population, 40,000.

Mocha, a port of the Red sea, is noted for its trade in coffee.

HISTORY.

16. The Arabs are supposed to be descendants of Joktan, of the posterity of Shem. Ishmael, the son of Abraham, by Hagar, an Egyptian slave, is greatly

venerated by the Arabs as one of their leading progenitors. They believe Mecca to be the place where at the age of fourteen he was left by his mother to die. The famous pool of Zenzem, now resorted to by pilgrims, they regard as the spring pointed out by the angel to Hagar. For many centuries Arabia appears to have been occupied by different chiefs, dwelling along the maritime borders; the interior being given up to unsettled and roving bands, as at the present day. In the time of St. Paul, Damascus was subject to Arabia. In the fourth century a Persian Monarch invaded Arabia and slew the king. Arabia was conquered by Mohammed during the sixth century, and was compelled to receive his doctrine. He died at the age of 64, A. D. 632, but his successors, under the name of Saracens, extended their conquests and their religion over Egypt and northern Africa, establishing an empire even in Spain. They got possession of Syria, a portion of Asia Minor, and the countries in the valley of the Euphrates. The Saracen kings fixed their courts first at Damascus, and afterward at Bagdad, where they reigned with unrivaled splendor. *Haroun Alrashid*, who died A. D. 808, marched an army of 20,000 men into Asia Minor, and humbled the Emperor of Constantinople by his vengeance. From this point the Saracen dominion gradually declined, after having effectually established the Mohammedan religion in all western Asia. In 1278 A. D. Bagdad was taken by the terrible hordes of Zingis Khan, and the caliph, the fifty-seventh successor of Mohammed, was trodden to death beneath the hoofs of the plundering cavalry. Two hundred thousand of the inhabitants were butchered, and thus terminated the empire of the Saracens. The subsequent history of Arabia presents little of striking interest. About a century ago a set of fanatics arose in the deserts of Arabia called Wahabees. In 1801, with an army of 100,000 men, they took possession of Mecca and Medina, and the tomb of Mohammed was plundered and destroyed. The Egyptians captured these places in 1813, who in turn again were subjected by the Turks.

It may be remarked that Arabia has fallen back nearly to the position which she held prior to the time of the Saracens. It has no spirit of improvement, no roads, no machinery, no steam power, and may therefore be regarded as a representative of the stationary condition of the Asiatic continent.

On the caravan routes, as in other eastern countries, are caravansaries, for the convenience of travelers. These consist of large spaces inclosed by walls, with stalls for horses and camels.

CHAPTER XXXVII.

PERSIA.

MAP EXERCISES.

Locate the following:

Persian Gulf, Strait of Ormuz, Arabian Sea, Lake Urumiah, Caspian Sea and Plateau of Iran.

What mountain ranges? Where is Hamoon Lake? What and where are the five largest cities? What is the latitude and longitude of Persia? What is the difference of time between Teheran and Athens? Calcutta? By means of the scale of miles what is the distance from Teheran to Jerusalem? to Bushire? to the mouth of the Indus river?

DESCRIPTION.

POSITION.

1. Persia is bounded on the north by the Caspian sea and Siberia; on the east by Turkestan, Afghanistan, and Beloochistan; on the south by the Indian ocean, Persian gulf, and Arabia; and on the west by Arabia.

EXTENT.

2. Its greatest length is 1,000 miles; greatest breadth, 600; and area, 450,000 square miles.

CHARACTERISTICS.

3. Persia is renowned for its ancient history, and its superiority to other Asiatic nations in literature, and refinement of manners.

SURFACE.

4. The central part of Persia is a table-land, about 3,000 feet above the sea; traversed, however, by mountain ranges, extending to the north. Here are many fertile tracts, irrigated by rivers. In this region is the beautiful valley of the Shiraz. The western portion is covered over by ir reclaimable salt deserts.

SOIL.

5. A large portion of this country, as has been said, is sterile. Some of the mountain sides and valleys contain rich soil.

CLIMATE.

6. In the north the climate is cool and delightful. On the plateaus the winters are extremely cold, and the summers extremely hot. The dryness of the atmosphere renders the sky clear. Along the Persian gulf some very hot climate is experienced, sometimes reaching 125° .

In general, Persia is deficient in water.

AGRICULTURAL PRODUCTIONS.

7. In the north it is covered with fine pastures, orchards, vineyards; and grain, cotton, tobacco, silk, madder, opium, assafoetida, wool, wine, rose water, saffron, and dates are among the products. Roses are cultivated in large tracts, for their product, ottar of roses.

MANUFACTURES.

8. The principal manufactures are silks, shawls (of goats' hair), carpets, felts, cottons, cutlery, arms, glass, etc.

MINERALS.

9. There are mines of copper, turquoise (peculiar to Persia), salt, coal, iron, naphtha, and garnets. Rock salt may be obtained almost everywhere, and sulphur may be dug in almost a pure state at Mount Demavend. Marble of the greatest beauty is found. Some is so transparent that it is used instead of window glass.

COMMERCE.

10. The commerce is extensive—transportation being performed by mules. The principal articles imported are muslins, leather, nankeen, China and glassware, amber, cord, precious stones, indigo, spices, etc. The exports are velvet, silk, cotton stuffs, many kinds of wares of copper, gold, and silver, besides dates, lemons, tobaccos, shawls, and the like.

ANIMALS.

11. The camel, ass, and gazelle are natives of Persia. Tigers, lynx, wild boars, wolves, jackals, and porcupines are common. Sheep and cattle are abundant.

INHABITANTS.

12. The population is much mixed. The *Parsees*, of the ancient Persian stock, are few in number, but retain their ancient fire-worship. The inhabitants consist mostly of Persians, Tartars, Arabs, and Georgians. They are a handsome, active, and war-like people, of a quick imagination, agreeable address, versatile, and pliable, but insincere and immoral in their habits. They are fond of poetry and imaginative literature. Total population 11,300,000.

RELIGION.

13. Their religion is Mohammedan, of the *Shiah* sect.

EDUCATION.

14. The intellectual qualities of the Persians is naturally of a high order. Their language is remarkable for its softness and harmony, which adapts it especially for poetry. The Persians possess numerous works of literature, and of science. The latter is of rather an inferior quality.

GOVERNMENT.

15. The government is despotic. The sovereign is called *Shah*; the governors of the provinces, usually royal princes, are named *beglerbegs*. The army consists of 57,600 men.

CITIES.

16. *Teheran* is the capital, and has a picturesque external appearance. It lies in a fertile region and has important manufactures.

Tabriz is situated in a remarkable volcanic region and the great commercial metropolis of Persia.

Meshed is noted for the manufacture of shawls and carpets, and for the beauty of its surroundings.

Bushire, on the gulf, has a large trade.

Principal cities with their population:

Teheran	200,000	Meshed	60,000
Tabriz	120,000	Ispahan	60,000
Rescht	60,000	Bushire	20,000

HISTORY

17. The early history of the country is obscure with fables. Cyrus became master of Media, which had long been a powerful kingdom. He conquered Babylon and the adjacent countries 538 B. C., and established the ancient Persian Empire. In 480 Xerxes, one of his successors, invaded Greece with an army of 3,000,000, and was totally defeated at the battle of Salamis. Alexander, the Macedonian, defeated Darius III, 331 B. C., in the celebrated battle of Arbela, forty miles east of the present town of Mosul, thus conquering the Persian Empire. Seleucus, Alexander's successor, reigned over the country for a time. In 250 the Parthians, a powerful Scythian nation, conquered it, and reigned over it for 500 years. About the year 600 A. D., the country had declined into a state of comparative barbarism. Here the ancient Empire of Persia ends, and at this point the history of modern Persia begins. This has been subject to many changes and vicissitudes. In 638 A. D., it was conquered by the Saracens and forced to adopt the Mohammedan religion. About the year 1000, it became subject to Mahmoud, whose capital was at Ghiznel, in the present Afghanistan, sixty miles south of Cabool. He conquered various countries, including a portion of Hindoostan, and established a dynasty which continued for nearly two centuries. The country was conquered and desolated about 1220 by Zingis Khan; and by Timour about 1320. Shah Ablas, the Great, who came to the throne in 1527, raised the country to a high degree of power and prosperity. The present ruler, Nassr-ed-deen, came to the throne 1848.

CHAPTER XXXVIII.

BELOOCHISTAN.

MAP EXERCISES.

Bound Beloochistan. Name and locate the capital. What other large cities? Give the latitude and longitude of the country. What mountains in the south?

DESCRIPTION.

SURFACE.

1. The whole country is mountainous, except in the northwest. Ruggedness is characteristic of its surface. The area of the country is 106,500 square miles.

RIVERS.

2. The rivers are very insignificant; the largest, the *Dustee*, though 1,000 miles long, being at its mouth only twenty inches deep and twenty yards wide.

SOIL.

3. This is barren and deficient in water, which is absorbed by the deserts. The pastures are poor and the cattle are few, but a good many sheep and goats are kept, the pursuit of the people being mostly pastoral.

VEGETABLE PRODUCTS.

4. These are cotton, melons, indigo, rice, sugar-cane, wheat, barley, madder, apples and assafoetida.

MINERALS.

5. The mineral products comprise copper, lead, antimony, iron, sulphur and alum, but these are turned to little account.

MANUFACTURES.

6. These are few, and consist of the following articles: Prepared skins, woolen felt and cloths, carpets, tent-covers and rude fire-arms.

COMMERCE.

7. The trade of this country is small. The exports are butter, hides, wool, oil, drugs, dried fruits, fish and the like. The imports comprise British manufactures, rice, spices, dyes and slaves. The two-humped camel and the dromedary are used as beasts of burden.

INHABITANTS.

8. The people are little known, but are said to be in a barbarous state, fond of gaming and warlike exercises, martial songs and rough music. They are indolent, cruel, dissolute, avaricious and vindictive. They number about 450,000.

GOVERNMENT.

9. The government is despotic, the *khan* having power over the

life, person and property of his subjects. A rude feudalism, however, greatly qualifies his rule.

LANGUAGE AND RELIGION.

10. The people speak the Belooche language, which resembles the modern Persian. Polygamy is practiced. The religion of the people is a corruption of the Mohammedan.

CITIES.

Kelat, the capital, is an ill-built city of 12,000 inhabitants. It is situated on a hill and commanded by a large citadel. Other towns exist, but they are unimportant.

HISTORY.

12. The country was anciently called Gedrosia, and till a late period was deemed a portion of Persia, and afterward a part of Afghanistan. Alexander's army in crossing the Gedrosian Desert suffered greatly from fatigue and thirst. The history of this country is little known.

CHAPTER XXXIX.

AFGHANISTAN.

MAP EXERCISES.

Bound Afghanistan. Name and locate the capital. Where are Kandahar and Herat? What lake and river in this country? Describe the mountain ranges. Between what parallels of latitude does it lie? Between what meridians of longitude? What is the latitude and longitude of Cabul? By the scale of miles what is the distance from Cabul to Teheran? To Cashgar? To Kelat?

DESCRIPTION.

SURFACE.

1. This is a mountainous country, intersected by valleys and wide plains.

SOIL.

2. Although this is a country of barren mountains and inhospitable deserts, there are many fertile valleys, well-watered, covered with thyme, clover, violets, and odoriferous plants, remarkable for their great beauty.

CLIMATE.

3. The climate is very cold in the upper regions and very hot in the lower; the thermometer sometimes registers 110° in the shade. The winter is cold and severe.

LAKES AND RIVERS.

4. *Hamoon* is a large shallow lake in the south-west. Its length is seventy miles, breadth from fourteen to twenty miles. *Helmund* river, 650 miles long, empties into this lake. It is noted for its fertile banks.

VEGETABLE PRODUCTIONS.

5. These are rice, maize, sugar cane, cotton, wheat, barley, beans, turnips, and the products of the temperate zones. Melons of a superior quality are grown.

ANIMALS.

6. Sheep and goats are abundant, the latter producing a fine wool, much used in the manufacture of shawls.

MINERALS.

7. Gold, silver, mercury, iron, lead, copper, antimony, sulphur, coal and naphtha are met with.

MANUFACTURES.

8. The manufactures are few, and mostly confined to woolens, shawls, cotton, silk, saddlery and harness.

COMMERCE.

9. Trade is not in a very flourishing condition. The exports are madder, tobacco, fruits, ferns, shawls, turbans, horses, assafoetida, wool and indigo. The imports consist of coarse cottons, indigo, muslins, silks, horses, ivory work, sugar, spices, etc. The transit trade is wholly conducted by means of camels and horses, the employment of wheeled carriages being impracticable.

INHABITANTS.

10. The population consists of Belooches, Persians and Hindoos; but the chief source of the present Afghan nation is the original Afghan tribe, which forms an ancient and peculiar people. The people are spirited and intelligent, but very fond of show. They resemble the Persians, though somewhat less refined. Population, 5,000,000. Area, 225,000 square miles.

EDUCATION.

11. Schools are common in the country, and a taste for poetry is general. Their religion is a kind of corruption of the Mohammedan.

LANGUAGE.

12. The people speak the Puchtoo language, which is so harsh that Mohammed called it "the language of hell."

GOVERNMENT.

13. Afghanistan is a sort of feudal monarchy, but it is largely under the control of Great Britain.

CITIES.

14. *Cabul*, the capital, is a fortified city, and has an active trade. The streets are intricate, and often too narrow for two horsemen to pass each other. The houses are built of sun-dried bricks and wood, with flat roofs. *Candahar* has an extensive transit trade. *Herat* is noted for its beautiful surroundings. *Ghizni* is remarkable for its ruins, which bespeak its former magnificence.

POPULATION OF THE LARGER CITIES.

Cabul	60,000	Herat	50,000
Candahar	25,000	Peshawer	59,000

HISTORY.

15. The early history of this people is little known. The country belonged early to Persia, and in the eleventh century was the seat of the Gaznevide empire, which extended over Persia and Hindoostan. It afterward fell under the power of the Mogul empire, Cabul being the capital and residence of Baber, one of the most famous monarchs of that race. In 1838 the country was conquered by the British.

CHAPTER XL.

TURKESTAN.

MAP EXERCISES.

Bound Turkestan. What is its latitude and longitude? Locate Khiva and Bokhara. Where is Pamir plateau? Describe the Amoo river; the Atrek river. What is the distance, in miles, between the two capitals?

DESCRIPTION.

SURFACE.

1. This country consists for the most part of an elevated plain, table-land, a *steppe*, crossed by various mountains, and inclosing the sea of Aral, which receives the rivers Sihon and Amoo. The Pamir plateau, on the east, is the highest table-land in the world.

SOIL.

2. This is in general sandy and sterile, but there are some fertile tracts.

CLIMATE.

3. The north is cold and beset with hurricanes. In the south it is milder; but everywhere the summers are hot.

PRODUCTIONS.

4. Game, fish, and domestic animals abound. A million of sheep are sent to foreign markets every year. The field crops are cotton, rice, wheat, hemp, flax, barley, maize, garden produce, melons, tobacco. The orchards yield apples, pears, peaches, apricots.

ANIMALS.

5. The animals comprise sheep, horses, asses, pigs, and gazelles.

MANUFACTURES.

6. The manufactures are domestic, and for home use. They consist chiefly of silk and some cotton goods, sabres, knives, and other weapons.

MINERALS.

7. Gold is found in the sands of the Sihon and the Amoo. Other minerals are unimportant.

INHABITANTS.

8. The Tartars, Aryans, and Kirghiz are the dominant classes. The whole population is about 8,000,000. The people are fierce, haughty, given to rapine and plunder, of an irritable temper, but are generally truthful.

COMMERCE.

9. This is considerable, and is carried on by means of caravans. The imports are muslins, sugar, shawls, brocades, porcelain, musk, tea, rhubarb, cotton, and wool. The exports consist of cotton, wool, fruits, hides, sheepskins and silks.

RELIGION AND GOVERNMENT.

10. The religion is Mohammedanism, mixed with strange idolatries. The country is governed by a governor general, under the control of the Russians.

CITIES.

11. *Khiva*, one of the capitals, is in an irrigated plain. Population, 60,000. Bokhara (the "treasury of sciences"), the other capital, is in a flat country, surrounded by hills. It contains 365 mosques, several of great splendor, and eighty colleges. It has long been the seat of Mohammedan learning. The population is 30,000. *Hissar* is the only other important town.

HISTORY.

12. Turkestan, or Tartary, formerly occupied nearly one-third of the surface of Asia. The general name of the people with the ancients was Scythians. They were a fierce and warlike race, and often made desolating incursions into the territories of Assyria, Persia, Egypt, and Asia Minor. Along the southern borders of Independent Tartary was the powerful kingdom of Parthai, which flourished from 256 B. C. to 226 A. D.; and the empire of the Bactriana, which was a great kingdom 200 B. C. Balkh, once its capital, is a city of great antiquity and celebrity. In 1226 A. D., Zingis Khan, a mongrel chief, had established an empire extending 5,000 miles, from the Pacific to Hungary. Tammerlane, one of his successors, in 1400 A. D., extended his dominion and founded the Mogul empire in Hindoostan, which rose to extraordinary splendor, and only terminated in the year 1803 A. D. From Tartary have issued the progenitors of many of the leading modern nations of Europe, including the Turks, Goths, Celts, etc.

CHAPTER XLI.

INDIA.

MAP EXERCISES.

Bound India. Name two gulfs on the western side of British India. What gulfs on the coast of Farther India? Locate the following islands: Ceylon, Laccadive, Maldive, Andaman and Nicobar.

What river empties into the Indian ocean? Into the Gulf of Cambay? What three into the Bay of Bengal? Describe the Irrawaddy.

Locate the following mountains: Himalaya, Eastern Ghauts, Western Ghauts, Vindhya, Nandi Devi, Dhawalagire, Everest, Kanchinjinga, Adam's peak.

Locate the following cities: Calcutta, Madras, Bombay, Benares, Lucknow, Agra, Delhi, Rangoon, Mandalay, Bangkok, Saigon, Hue.

Describe the situation of the following political divisions: Hindoostan, Farther India, Nepal, Bhotan, Birmah, Siam, Anam. In what zones is India? What is the latitude and longitude of Calcutta? Bombay? Saigon? In what direction is Calcutta from Bombay? Madras? Hue? Mandalay? Benares? Srinagar?

DESCRIPTION.

POSITION.

1. India occupies the southern part of Asia. It is bounded on the north by China, on the east by the China sea, and on the south and west by the Bay of Bengal and the Arabian sea.

EXTENT.

2. It ranges through about thirty degrees of latitude and through thirty degrees of longitude. Its length from north to south is about 2,000 miles, and east and west about 2,800 miles. Area, 2,170,000 square miles. Of British India, 1,485,000 square miles.

DISTANCES FROM CALCUTTA.

Bombay	1,050 miles.	Saigon	1,500 miles.
Madras	850 "	Hue	1,300 "
Lucknow	600 "	Ceylon	1,100 "

COAST.

4. British India has a coast line of about 5,000 miles, and Farther India but little less. It is generally deficient in good harbors. The coast is regular, with few large inlets. The gulfs of Cutch, Cambay and Martaban are the only indentations of great extent.

ISLANDS.

5. *Ceylon* is the largest island. It is a beautiful and productive region. Its pearl fisheries are the most productive in the world. *Ceylon* contains the Sacred Tooth of Buddha, and is the home of the finest elephants in the world. The *Nicobar* and *Andaman* islands have already been described. The *Maldivé* islands contain nearly 50,000 islands, but they are nearly all mere rocky points; the area is 2,600 square miles. The *Laccadive* islands lie west of the southern part of Hindoostan. These are separated from the *Maldivé* islands by channels. They are of coral formation, and embrace about fifty different islets. Some of the larger are inhabited.

SURFACE.

6. The surface is greatly diversified. The central parts consist of elevated plains. Hindoostan is surrounded in the interior by mountains. The *Himalayas* are on the north, the *Eastern* and *Western Ghauts* along the coasts. In the north-west is the *Thurr*, an extensive desert region. There are also many low plains.

LAKES AND RIVERS.

7. There are no lakes of importance, but rivers are numerous. The following are the principal streams :

Name.	Length. Miles.	Remarks.
Ganges	1,960	It is navigable 1,500 miles. Its delta is from 80 to 100 miles wide. It is an exceedingly muddy stream. Crowds of boats constantly upon it.
Brahmaputra . . .	1,800	This river is also an important highway of commerce. During the last sixty miles of its course it is four to five miles wide, and studded with islands.
Indus	2,000	Source 18,000 feet above the sea. The valley is one of extreme fertility. Navigation generally obstructed by sand-bars. It has numerous mouths and a large delta.
Irrawaddy	1,200	("The great river.") Delta contains 10,000 square miles. Steamboats ply upon its waters. Its mouth is from one to four miles wide.
Nerbudda	620	Navigation is impeded by rocks, shallows, sands, and cataracts.
Godavery	700	Its waters are used exclusively in irrigation.
Krishna	600	It flows through a mountainous country, and is ill adapted to navigation. Used for irrigation.

SOIL.

8. There is much very fertile soil, especially in the river valleys. The Thurr and Deccan are sterile regions. Irrigation must be employed in many places, and in other places are extensive swamps. The deltas of the Ganges and the Brahmaputra form an immense marsh.

CLIMATE.

9. The climate of the south is tropical. In the north it is temperate and delightful. Violent hurricanes occur about the changing of the monsoons. The heat is so oppressive in the plains that no European can endure it. In Central India the rains are very light, but in the upper country the rain-fall becomes excessive. Near the base of the Himalayas 610 inches of rain fall annually. The result is that the productiveness of the different sections varies greatly.

VEGETATION.

10. The natural productions of India are oranges, lemons, citrons, dates, almonds, mangoes, pineapples and various spices. Grains, sugar, tea, indigo, cotton, ginger and other spices are cultivated. Rice is a staple article of food. Hindoostan is the chief opium producing country of the world. Forests cover large areas. The banyan tree is

famous for its great size. There is one which is said to cover seven acres of ground with its branches. Double harvests are annually produced in most parts. The valley of the Cashmere is so rich and beautiful as to have been deemed the "Paradise" or "Eden" from which Adam and Eve were driven.

ANIMALS.

11. The animal kingdom is greatly diversified. In the jungles—thickets of prickly shrubs—there are lions, tigers, leopards, panthers and other beasts of prey. The antelope, deer, nylghau, wild buffalo, yak, or grunting ox, rhinoceros and elephant are common. The latter is tamed and used as a beast of burden. The domestic animals are the horse, camel, buffalo, swine, ox, sheep and goat. The forests abound in monkeys, and the marshes in crocodiles and serpents. Birds of superb plumage are numerous.

MINERALS.

12. Coal, iron, copper and lead are found in several places, but the mines are not much wrought. Diamonds occur in Deccan. Mineral products seem to be more plentiful in Farther India than in Hither India.

MANUFACTURES.

13. These are not numerous. In Birmah the inhabitants excel in casting bells and in making gold and silver. Cotton goods are made to some extent. Calico is said to have derived its name from Calicut, a city on the south-western coast of Hindoostan, where it was first manufactured.

COMMERCE.

13. The commerce of India is important and very extensive. The trade is chiefly with Great Britain. The exports include cotton, rice, seeds, hemp, silk, gums, sugar, coffee, oils, skins, ivory, coir, etc. The imports are cotton goods, from England, and other manufactures.

INTERNAL IMPROVEMENTS.

14. Various canals have been cut in different sections. Long lines of railway and telegraph lines cross the country in many directions. These have been built mainly by British capital. British India is rapidly developing under British rule.

INHABITANTS.

15. The Hindoos are nearly all black, but of the Caucasian race. They are divided in four classes or castes. They are a gentle, indolent and contented race, living from age to age with unchanging devotion to the religion and customs of their fathers. Missionaries, however,

have succeeded in converting many. The great mass are poor, and dwell in slightly built huts, wearing light cotton dresses, living chiefly on rice and other vegetable diet. As a race they are not destitute of talent, and excel in many arts. Their jugglers surpass all others in dexterity.

GOVERNMENT.

16. India is comprised under four principal divisions:—British India, Burmah, Siam and Anam. The last three are independent empires. British India is governed by a governor general appointed by the crown of England. He is assisted by a council of five, and by a legislature. About 123,000 men are employed in the British military service.

POPULATION.

17. Population of British India, 241,121,000.

LANGUAGE.

18. There are many languages and dialects spoken in India. The English is spoken extensively in many parts, and it is altogether likely that the English tongue will supplant the native language.

EDUCATION.

19. This is at a very low ebb. However, the English have established many schools in different parts. The steamboats, railroads and telegraph are the best educators at present. Missionaries have done much to diffuse knowledge among these benighted people.

RELIGION.

20. Brahminism prevails throughout India, but there are also many Mohammedans (about 4,000,000); also about 10,000 are Christians. The Buddhists represent about 3,000,000 of the inhabitants. Politically and religiously the natives are divided into four castes: 1st, the priests; 2d, soldiers; 3d, merchants; 4th, laborers. These do not eat or drink together, nor intermarry; and if any one violates the rules of his caste he becomes an outcast or *Pariah*. The Hindoos believe in the transmigration of the soul. The spirits of the good are supposed to pass from higher to higher stages of existence until they are finally absorbed in the Brahmin, or great high priest. The wicked pass through lower stages of animal existence until finally annihilated.

CITIES.

21. The cities of India are numerous and large, but in general uninteresting to the student. These have narrow, crooked, unpaved filthy streets, and everything betokens lethargy and low existence.

The parts of cities built by Europeans are built after the modern style.

Calcutta, the capital of British India, is on the Hoogly river, 100 miles above its mouth. It is strongly fortified, the fort holding 619 cannon and 15,000 soldiers. Because of its numerous fine buildings it is called the "City of Palaces." Its trade is the largest in Asia, and it contains the "Black Hole," a small dungeon eighteen feet square, with but two small windows, where, in 1756, the British garrison of 146 were shut up over night by the Indian ruler. In the morning but twenty-three men remained alive, the others having died from suffocation. A monument fifty feet high stands at the door to mark its place.

Calcutta (Kali Ghatta) means the landing place of the goddess Kali, wife of Siva, whose temple stood on the river bank.

Bombay, on an island of the same name, eight miles long and three wide, and the first land in India acquired by the English, is on a very fine bay, and is the second commercial city of Asia. Ship-building is largely carried on. But 10,000 Europeans live here, and 30,000 of the population are Parsees, descendants of the Persian fire-worshippers, and are among the richest and best people of the city.

"On a high hill in the city is their walled cemetery, in which are five round towers about as high as a four-story house. When a Parsee dies, his body is placed on an iron grating at the top of one of these towers, and left there until the vultures have eaten all the flesh off, when the bones fall through the grating into the tower. A row of vultures may always be seen sitting around the edges of these towers waiting for their feast." Bombay means "good bay." On an island (Garapari or Elephanta) in Bombay harbor is the celebrated cave temple of unknown antiquity. It is a wonderful structure, and much visited by travelers.

Madras has a large trade but no harbor. Ships anchor two miles from the city. The European portion is a fine city, but that inhabited by the natives has narrow, dirty streets. Several colleges and an astronomical observatory are here.

Hyderabad is an ill-built city but with some elegant buildings and residences. Among the curiosities of this city is the Nizains regiment of women, who perform all the military duties the same as men.

Lucknow is an important railway junction, and is celebrated for its picturesque scenery. It contains many beautiful palaces, and is noted for its siege in the Sepoy rebellion.

Benares is the sacred city of the Hindoos. It contains over 1,000 pagan temples and 300 mosques, besides being the center of Brahminical learning. Numerous pilgrimages are made hither.

Agra is noted for its magnificent palace called the Pearl Mosque, built by Shah Jehan; also its mausoleum, built by Shah Jehan as a tomb for himself and wife. This building of such wondrous beauty, the finest in India, is 760 feet square, surmounted by a lofty dome, and is built of white marble. The great central hall is paved with various colored marble, and is adorned both outside and inside with

mosaics formed of twelve different kinds of costly stones. The whole of the Koran is said to be written in letters of these kinds of stones. The building cost about \$16,000,000.

Delhi was once one of the most famous cities of India, with a population of 2,000,000 souls. It is now largely in ruins, but its ruins show evidence of its former greatness. Its palace, the most magnificent one in India, contained the celebrated "Peacock Throne," made of gold and jewels, costing \$30,000,000. It was plundered by the Persians. Its mosque called Jumna Musjid is one of the most splendid buildings in the world. It will be observed that the cities of India contain many things of interest, and many more than have been mentioned above.

POPULATION OF PRINCIPAL CITIES.

Calcutta	892,000	Allahabad	150,000
Bombay	753,000	Agra	138,000
Madras	406,000	Delhi	155,000
Hyderabad	263,000	Colombo	100,000
Lucknow	261,000	Rangoon	100,000
Benares	208,000		

HISTORY.

22. This country, formerly called India, is one of great antiquity, having been settled soon after the deluge. In the time of Semiramis, it was a rich, populous and powerful country, under the government of various princes. Alexander conquered Porus 328 B. C., a prince of the Punjab country, who brought against him an immense army, assisted by thousands of elephants. Hindoostan continued under various princes, who appeared to have lived in a state of great magnificence. Mahmoud of Ghizni invaded it twelve times, and at his death, 1028 A. D., he was not only master of Persia, but of nearly the whole of Hindoostan. In 1194 it came under the rule of the Mohammedans, and rose to a great pitch of power and splendor. In 1396, Timan or Tamerlane, broke over the mountains of the north with his irresistible Mongol hordes, made the country subject to his own kingdom, after having robbed it of an amazing quantity of gold, silver and jewels. In the sixteenth century Sultan Baber, a descendant of Timan, came to the throne and established what is called the Mogul Empire. He and his successors became the wealthiest and most magnificent sovereigns of the world. In the fifteenth and sixteenth centuries Europeans found their way to Hindoostan. Under this influence the Mogul Empire wasted away, and at last the dominion of the Great Mogul was confined to the city of Delhi. In 1764 he was conquered by the British, which put an end to his influence, though he had some apparent authority till 1803. In the year 1498 A. D., the Portuguese established a colony at Goa, and all along the coast from Burmah to Arabia, but in a half a century they lost nearly all their power. The Dutch and the Spaniards had also established several colonies, the latter chiefly on the East Indian Archipelago. The British East India Company, established in 1600, obtained permission from the Mogul emperor to establish a trading post in Bengal. They afterward purchased from the Subah of Bengal the village of Calcutta, which has since become the capital of British India. Since then the English have extended their domain until it has reached its present limits.

CHAPTER XLII.
FARTHER INDIA.

MAP EXERCISES.

Locate the following:

CAPIES.

Negrais, Cambodia, Romania.

GULFS.

Siam, Tong-King.

ISLANDS.

Nicobar, Andaman.

SEAS.

South China.

RIVERS.

Mekong, Salwin, Irrawaddy.

CITIES.

Hue, Saigon, Bangkok, Mandelay, Rangoon, Singapore.

RELATIVE POSITION.

In what direction are the following from Ragoon: Hue, Saigon, Pekin, Calcutta, Singapore, Tokio, and Victoria? In what direction is Hue from New York? from Rio Janeiro? Cairo? Madagascar?

TRAVELS.

On what bodies of water would a vessel sail in going from Hue to Mandelay? to Pekin? to Bombay? to Adelaide? to Olympia? to Berlin?

MISCELLANEOUS.

Where is it midnight when it is noon in Bangkok? when 6 A. M.? when 6 P. M.? When 3 P. M.? What change of time would a man make in his watch in going from Bangkok to show correct time in Pekin? in San Francisco? in London? in Odessa? in Muscat?

DESCRIPTION.

1. Farther India comprises Anam, Cambodia, Siam, Burmah, with British India on the west.

POSITION.

2. It lies in southern Asia, south of China, east of the bay of Bengal, and west of the South China sea. In longitude it lies mainly between 93° and 109° east, and in latitude from 1° to 28° north.

EXTENT.

3. Anam has an extent of 198,000 square miles; Siam, 309,000; Burmah, 190,000; Cambodia, 35,000; and British India, or Burmah, 100,000 square miles.

COAST.

4. British Burmah has about 1,000 miles of coast line. The whole shore line is much broken, and abounds in good harbors. A number of sea-ports of importance exist.

SURFACE.

5. The surface of all Farther India is diversified by mountains, hills and valleys. Near the rivers are large plains which are overflowed every year. The whole country is rich, and in general appearance very beautiful.

RIVERS.

6. The *Cambodia*, or *Mekong*, 1,800 miles long, is the largest river of Farther India. The navigation of the upper course is difficult, but the lower course is valuable. Rapids are frequent in its upper course. For beauty of scenery it can scarcely be excelled; the upper part is of the wildest and most rugged character, the stream often flowing through very deep gorges in the mountains, and in some places tunneling the cliffs into fantastic forms. The *Salwin* is a noble stream, flowing through a rich and well wooded country. The *Irrawaddy* (1,200 miles long) has a delta of 10,000 square miles. It is navigable 800 miles to the sea, and has numerous mouths, the largest being called *Rangoon*. The *Menam* (600 miles long), another important river, is called the "Nile of Siam;" also "Mother of Waters," because it overflows its banks from June till November, and since the success or failure of the rice crop along its bottoms depends on the regular fertilizing overflow.

SOIL.

7. This is almost everywhere of extreme fertility, producing an abundance of vegetation. The mountain regions are not so well adapted

to tillage. In the valleys it yields richly to the rude cultivation of the natives.

CLIMATE.

8. The climate in the lowlands is generally very hot, often more than 100° in the shade, and unhealthy; but in the uplands it is much cooler, and quite healthful. There are two seasons in Siam and the lower countries, the hot or wet, and the dry or cool; the former begins about the middle of March. Annual rain-fall, sixty inches. Monsoons occur here as in India. Burmah has four seasons, one hot, one cold, and two wet, occurring about March and September.

VEGETABLE PRODUCTIONS.

9. Vegetation is luxurious, fruitful, and beautiful beyond description. The leading products are rice, sugar, cotton, pepper, and hemp. Millet and tea are raised extensively in Burmah, but the natives, instead of steeping their tea, eat the leaf prepared with oil and garlic. Many fruits, as the custard apple, durian, mangusteen, and other tropical fruits are produced in large gardens. The forests supply bamboo, palm, beetle, gutta-percha, rattan, and the odoriferous eagle wood; innumerable medicinal plants, herbs and roots; dye woods of various kinds; building and ship timber, especially from the mountains; beautiful woods for fine furniture, as iron, red and white woods, rosewood, ebony, and the sacred banian. The upper Salween produces the famous oil tree, yielding from thirty to forty gallons of oil per year. The poppy is cultivated extensively for the opium made from it.

MINERALS.

10. Burmah and Siam are rich in minerals, but the mines are not largely worked. Gold, tin, iron, copper, and lead abound in great purity. Burmah has the finest ruby mines in the world. Other precious stones, as sapphires, topaz, and amethyst abound in considerable quantities. The mountains of Burmah, near Ava, furnish a superior quality of limestone, and fine statuary marble is quarried forty miles from Ava, on the banks of the Irrawaddy. Amber exists in enormous quantities, and can be purchased in the streets of Ava for one dollar a pound. Nitre, salt, and coal are plentiful over the entire country of Burmah, besides numerous and famous petroleum wells add to the mineral wealth of this country.

MANUFACTURES.

11. But little progress has been made in any of these countries in the useful arts. Women carry on the whole process of cotton manufacture, displaying little ingenuity or skill. Salt is obtained by solar evaporation. Some iron and other minerals are smelted, but much is lost in the process through ignorance. Nearly everything of manufac-

ture is imported. The casting of bells and working of gold and silver is an active business.

ANIMALS.

12. These are numerous and of great variety. The domestic animals are the ox, the horse, and the buffalo. The elephant is used as a draught animal; the white elephant is celebrated, and when captured belongs to the king. A few sheep, goats, and asses are reared. Dogs and cats, wild and domesticated, are innumerable, especially in Siam. There are white deer, monkeys, and tortoises, and the natives believe them to be the abode of transmigrated souls of white men. Ants, which are numerous, are stored up by the Burmese in great quantities for food.

The forests swarm with wild animals; among them are the elephant, which often does much damage to the rice fields, the tiger, rhinoceros, deer, leopard, bear, otter, wild hog, ourang-outang, ape, monkey, and reptiles of many kinds.

Many birds abound, such as the peacock, pheasant, pigeon, numerous aquatic birds, and the sea-swallow, which produces the edible bird's nest. Fish are plentiful but of poor quality, except in the far north. The horses in Burmah are used for riding only, and are quite small—thirteen hands high. Insects are numerous, and just before the rainy season are a plague to the inhabitants.

COMMERCE.

13. An extensive trade is carried on, chiefly by foreign nations, with these countries. They export ivory, rhinoceros and deer horns, precious stones, ornamented feathers, edible bird's nests, raw cotton, tin, and a few other products of the country. The imports consist of a great variety of articles, consisting of porcelain, cotton, iron and steel wares, and other Chinese and European products.

INTERNAL IMPROVEMENTS.

14. There is a great lack of internal improvements, the inhabitants relying mainly on the natural products of the soil for subsistence. Ordinary houses are built of bamboo generally elevated on poles; there is some architectural display in the palaces and temples, which are numerous, but there is little native design. A number of railroads have been constructed or are in process of construction, chiefly by English capitalists, which will do much toward bringing these countries toward civilization.

INHABITANTS.

15. The Siamese and the Anamese are Mongols; the Burmese are chiefly Caucasian, while the inhabitants of the Malay peninsula belong to the Malay or brown race. Many Europeans live here at various places, either for trade or as missionaries.

POPULATION.

Burmah	4,000,000	Anam	21,000,000
Siam	5,750,000	Cambodia	1,000,000

GOVERNMENT.

16. Burmah is an empire governed by a despot who has complete control over life and property of his subjects. Siam is governed by two kings, but one has more power than the other; they are treated as though they were gods. "The queen has a separate court and a guard of female soldiers." The king is also "sacred lord of all the possessions of all," and is thus absolute in his government. Anam is also an absolute monarchy. Cambodia is a kingdom, but under French protection. The western part of Farther India is governed by the British, and is called British Burmah.

LANGUAGE.

17. The language of Burmah is Burmese, a monosyllabic and uninflected tongue. The Siamese is the language of Siam, but there are many dialects; it is spoken well only in Bangkok. The language of the people of Anam resembles that of the Chinese.

EDUCATION.

18. There are some schools in which some of the rudimentary branches are taught, chiefly for the few wealthy and those of the religious order, as priests.

The Burmese literature is said to be very rich. However, the most of the people are very ignorant and much oppressed. Missionaries are doing much toward the enlightenment of the people.

RELIGION.

19. The Burmese and Siamese are Buddhists of the purest stamp. Missionaries have been laboring for the past two centuries in these countries, but with great difficulties. Lately more encouragement has been given them, and numbers have been converted to the Christian faith. In Anam Buddhism prevails among the common people, while the religion of Confucius is embraced by the upper classes; but the Anamese are not a religious people.

CUSTOMS.

20. Many queer customs exist among the people of this far off peninsula. The customs of the Burmese and Anamese do not differ much from that of the Chinese. "In Burmah when two persons kiss, each one applies his nose and mouth to the cheek of the other, at the same time drawing in the breath as though inhaling some delicious

perfume." Instead of our "Give me a kiss" they say "Give me a smell."

The Siamese stain their teeth black and sometimes serrate them. The hair is plucked from the face in youth, and they wear a black, bristling tuft four or five inches broad on the top of their head instead of the Chinese "pig-tail." Priests shave their heads entire.

Children under seven years old are clad only in jewels, fig leaves, flowers and turmeric. Men sell their wives, children or themselves, often for debts.

Their houses are but one story, so that no one may ever walk over the head of another. Their cattle are stalled under the house. There is no regularity about their meals, but eat whenever they get hungry, and they eat with their fingers. They pour all their slops through the cracks of the floor, and their rooms are never swept or cleaned.

They wash their feet before entering the house, their hands and mouth after meals from the same vessel of water, which is placed immediately in front of the dwelling.

There are no washing and no ironing days, and when the people get dirty they bathe in the river and dry themselves in the sun.

The people in nearly all these countries are gay, fond of amusement, but lazy, and though they seem kind, when once aroused they become extremely vindictive.

CITIES.

21. *Rangoon*, the capital of British Burmah, is the seat of an extensive trade, and has five light-houses to guide vessels to the port. The streets are narrow, but clean and paved. Population, 99,000. *Mandelay*, the capital of Burmah, and 350 miles above Rangoon, was commenced in 1856, and is already a city of 90,000 people. It has massive fortifications, and palaces, cloisters and temples resplendent in color and gold.

Bangkok, the capital of Siam, is built partly on the banks and partly on the Menam river itself. The heat of the summer months is intense.

There is here a very beautiful palace and the finest temple of Farther India. There are many of these throughout Siam, situated in vast, choice and well-paved parks, with white walls gleaming through the leaves, and serrated roofs, spacious domes and lofty spires, all painted, gilded and glazed, resplendent in the sun light, their towers containing bells rung by the air. Population 500,000, with 20,000 priests, who live by the charities of the people.

Saigon (90,000), the capital of the French possessions, has a large trade, exporting rice, cinnamon and valuable woods. It became French territory in 1862.

Hue, the capital of Anam, has a population of 100,000. It is a naval station, has large ship yards and an extensive cannon foundry. It is fortified after the European manner, and would require 57,000 men to fill the garrison.

Singapore, with a population of 100,000, is situated on Singapore island, (twenty-five miles long and twelve wide—area, 224 square miles), and in consequence of its geographical position it is the *entrepot* of commerce of south Asia, and the Indian Archipelago; it is visited by ships of all nations, and is the leading tin market of the world. The botanical garden contains a splendid collection of tropical plants. The city has a fine harbor, and is the capital of the British possessions called the Straits Settlement, begun in 1819. The name Singapore signifies the “City of the Lion.”

HISTORY.

The early history of these countries is shrouded in obscurity. Authentic history of Siam begins 1350 A. D. In the sixteenth century Anam extended to Singapore. In 1782 the present dynasty ascended to the throne, and in 1833 a treaty was made with the United States. The recent kings of Siam have been noted for their attainments in language, general improvements, adoption of European ideas and humane government.

Of the history of Anam but little is known of interest to us. It was visited by Marco Polo toward the end of the thirteenth century. In the seventeenth century, when Anam was in the height of its prosperity, the Jesuits introduced Christianity and it made a great many converts, among these the emperor; but succeeding emperors not only rejected Christianity, but even persecuted the priests and converts. When between 1854–8 several of the missionaries were murdered, the French made it a pretext for the acquirement of a colony in the east. In 1858 they took Saigon, and by treaty which followed they acquired the French possessions; three ports were opened and Christianity was permitted throughout Anam.

The history of Burmah is not especially interesting. The Burmese seem to be a very old race, but authentic history begins with them at a comparatively modern period. Formerly the territory of Burmah was much more extensive than now, but the English have wrested from it several provinces. Numerous wars were made by the Burmese from the thirteenth to the present century, and their struggles were sometimes long and severe.

CHAPTER XLIII.

CHINESE EMPIRE.

MAP EXERCISES.

GULFS.

Tonquin, Pechili.

SEAS.

China, Blue, Japan.

STRAITS.

Formosa, Hainan, Corea.

ISLANDS.

Hainan, Formosa, Loo Choo.

MOUNTAIN RANGES.

Himalaya, Karakorum, Kuenlun, Thian. Shan, Altai, Nanling, Yunling, Great Khingan.

MOUNTAIN PEAKS.

Everest, Dapsang, Nandi, Devi, Blelucha.

LAKES.

Tungting, Poyang, Lop, Bosting.

RIVERS.

Pei Ho, Hoang Ho, Yangste Kiang, Amoy, Sungari, Tarim, Sikiang, Brahmaputra.

CITIES.

Pekin, Nankin, Hangchow, Shanghai, Ningpo, Foochow, Amoy, Canton, Hong Kong, Lassa, Tientsin.

RELATIVE POSITION.

In what direction is Pekin from Hong Kong? from Lassa? from Saigon? from the Loo Choo islands? Nankin from Shanghai? from Amoy? from Pekin? from Lassa?

TRAVELS.

Trace a water route from Pekin to Nankin; to Canton; to Saigon; to Calcutta; to Yokohama.

MISCELLANEOUS.

What time of day is it now in Pekin? What is the difference between the length of this day at Hong Kong and Pekin? What part of China is crossed by the Tropic of Cancer? By the scale of miles, what is the distance from Nankin to Pekin? to Hong Kong? to Lassa? to Calcutta? to Kashgar? Measure the distance from Pekin to Columbus on the parallel; from Shanghai to New Orleans. What is the altitude of the sun to-day, at noon, in Pekin? What is the longitude of the place where time is two hours earlier than Pekin? three hours later than Canton?

DESCRIPTION.

POSITION.

1. China is bounded on the north by Siberia; on the west by Siberia, Turkestan and India; on the south by India and the China sea; and on the east by the China sea, Blue sea and Japan sea.

LATITUDE AND LONGITUDE.

2. It extends from 18° to 53° north, and from 80° to 136° east longitude.

EXTENT.

3. The greatest length is 3,350 miles, and greatest breadth 2,100. Area of the whole empire, 4,560,000 square miles. China Proper (known as "The Flowery Land") is variously estimated at from 1,298,000 to 2,000,000 square miles. It will be seen that it has an area about seven to eight times as large as France, or one-half of Europe.

CHARACTERISTICS.

4. This empire is remarkable for its great antiquity, its vast extent and its immense population. It includes China Proper, Thibet, Manchooria, Mongolia, Turkestan and Corea.

"Celestial Empire" is a name given to China as a popular designation. It is said to be derived from two Chinese words, signifying the kingdom ruled by a dynasty appointed by heaven. As a popular designation the Chinese are called "Celestials."

COAST.

5. The coast of China, measuring 2,500 miles, is broken by few inlets setting deep into its sides; yet it is by no means regular. From Hainan to the Yangtse Kiang it is bold and rocky. The southern coast is barren and uninviting. Many fine harbors exist. The coast is frequently visited by storms of terrific violence.

ISLANDS.

6. *Hainan*, *Formosa* and the *Loo Choo* islands are the largest. They are quite populous. *Formosa* is the "Granary of China."

SURFACE.

7. Only a little more than one-third of China is fit for cultivation. Nearly all that extensive region outside of China Proper is a desert waste. The whole country slopes gradually from the Plateau of Thibet to the Pacific. The surface is mostly uneven, and in many places quite mountainous. The south-eastern portion is very irregular, being broken by hill and dale, mountain and valley. The north-eastern portion of China Proper is generally level, and contains the "Great Plain."

Mantchooria is generally a mountainous country; but in the west are vast rolling prairies with excellent pasture. Vast forests cover many parts, especially the north. *Thibet* is an immense and generally barren plateau.

MOUNTAINS.

8. The *Himalayas* are on the south-western boundary, and the *Altai* on the north. The *Yungling* and *Peling* are the principal ranges of China Proper. The *Nanling* range is in the south-east. These ranges throw off numerous spurs, which cross the country in various directions, and divide it into a number of almost isolated sections.

NATURAL CURIOSITIES.

9. Owing to our limited acquaintance with China we are unable to give many natural objects of interest. The lakes, though small, are said to abound in some very fine scenery. The inhabitants themselves are almost the greatest curiosities. Their modes are so different from ours that they are a source of no little interest and amusement.

Among the objects of interest the "Great Wall of China" ranks pre-eminent. It is the greatest work of defense ever erected by man, and was built as a bulwark against the invasions of the Tartars, about 215 B. C. Its length is 1,250 miles, fifteen to thirty feet high, and a breadth such that six horsemen can ride abreast on it. In some places it is nothing more than a heap of gravel, while in others a solid foundation of granite.

LAKES.

10. The principal lake in China is the *Tungting*, 220 miles in circumference. *Poyang* is not far distant from Tungting, and is ninety miles long, and twenty miles wide. There are several other lakes in the eastern part. On these lakes are seen numerous floating gardens with houses, fields, inhabitants, domestic animals and birds.

There are many lakes in central and western China, the principal of which are *Lop* and *Bosting*. They are salt, and, like all the lakes of China, shallow.

RIVERS.

11. The rivers of China are in proportion to the size of the country. In the south-east the rivers are generally short, and their beds obstructed by great rocks. The *Yangste Kiang* and the *Hoang Ho*, or *Yellow*, are the principal streams. They have their sources near each other in western China, but are far separated in their middle course, after which they again approach each other.

The *Pei Ho* and the *Sikiang* are also large rivers, and important routes of trade.

The *Hoang Ho* is not navigable on account of the shallows. It is subject to disastrous floods, causing great loss of property, and even life, and is for this reason called "China's Sorrow."

The *Yangste Kiang* is a noble river, the most beloved by the Chinese, and is called the "Son of the Ocean."

The *Tsien-tsang* is noted for its violent bores, the largest in the world. They are sometimes thirty feet high, and rush with a velocity of twenty-five miles an hour, sweeping everything before them.

The *Sikiang*, or Canton river, is an important river in the south, and its banks are crowded with shipping.

The following are the principal rivers of China:

Name.	Length. Miles.	Miles of Navigation.
Yangste Kiang	3,000	Seven hundred.
Hoang Ho	2,700	Not navigable.
Sikiang		Three hundred.
Pei Ho	350	
Amoor	1,500	Fifteen hundred.
Sungari	800	Deep and easily navigable.

SOIL.

12. China Proper has a very fertile soil. The "Great Plain," lying between the Great Wall and the Yangste Kiang river, and stretching from the sea to 113° east, embracing an area of 210,000 square miles, supports a population of 177,000, the densest population of any region on the globe of like size.

Corea and Mantchooria are generally quite fertile, and are clothed with a rich vegetation.

The north and west of the empire is barren, and supports but a scanty population. Less than one-fifteenth of the entire number of people of China live outside of China Proper. In the north, frosts occur in August and snows in September.

CLIMATE.

13. Of course, in a country of such vast extent, the climate is various. It is cooler than that of western Europe. Summer begins late and ends late. In the desert regions the climate is changeable; the heat sometimes becomes intense, and the cold during the winter very severe.

A change of climate has taken place about Pekin within the last two hundred years. There is less rain-fall, and the country less productive.

In general the climate may be said to be healthy, but the country is subject to desolating storms called *typhoons*.

These occur during the months of July, August and September, and never fail to commit great devastation. The region of Canton suffers most severely. On the whole, China may be said to have a climate of extremes.

VEGETATION.

14. The vegetable products are those of the temperate zone. The tea plant is native, and cultivated to an immense extent, and exported to the value of \$56,000,000 annually.

The camphor tree, tallow tree, shrubs producing varnish, gums, oranges, cinnamon, rhubarb, ginseng, apples, grapes, pomegranates, mangoes, pineapples, cereals, kitchen vegetables, etc., are leading productions. Tobacco and the poppy are also raised.

ANIMALS.

15. Comparatively little is known of the zoology of China. Most of the wild animals are extirpated. A species of spaniel is the only dog. Quails, doves, and pheasants are common. Tortoises, turtles, lizards, and sharks are plentiful in the southern waters. Locusts often commit destructive ravages. The silk-worm is highly valued, and extensively cultivated.

MANUFACTURES.

16. The manufactures are ingenious and varied, including silks, shawls, embroidery, porcelain, lacquered ware, carvings in wood, shell, ivory and horn, engravings, cabinet work, bell-casting, etc. Nearly everything is made by hand.

The Chinese are not a progressive people, and do not readily take to the better methods of the Europeans and Americans. Labor is so cheap that they do not feel the need of improved machinery. In the manufacture of silk they excel. Everybody wears silk in China; even the poor have at least one suit of it.

MINERALS.

17. The mineral wealth of this country is very great. The north-west of China Proper is the principal mineral region. Coal exists in enormous quantities. Salt is obtained in large quantities, while copper, quicksilver, lead, zinc and tin are extensively worked. Near the center of the east coast region large beds of porcelain clay occur. Iron is abundant and petroleum is found to exist in several places; the latter is thought to be inexhaustible. Gold is mined in the bed of the Yangste Kiang; and in the south-west of China proper, according to Johnston, are found the largest gold workings in the world. Here is also found the famous white copper. Fire-wells, or gas springs, as well as hot springs, are numerous in the west.

COMMERCE.

18. The Chinese are a great trading people. They are shrewd, methodical and enterprising, and not over scrupulous in small dealings. The inland commerce is immense.

The exports are tea, raw silk and silk goods, straw goods, mats, fans, parasols, porcelain and lacquered ware, rattan, fire-crackers, trinkets, etc.

The imports are opium, longcloths, ginseng, tin, lead, iron, petroleum, and the like.

The whole value of imports in 1881 was \$136,000,000, and the exports \$109,000,000.

One-third of the commerce is carried on with Great Britain. Tea and silk make up three-fourths of the exports, while opium and cotton goods constitute two-thirds of the imports.

INTERNAL IMPROVEMENTS.

19. There are scarcely any roads in China, and wheel-carriages are rare. Nearly all the merchandise is carried on the backs of mules or by "coolies." The canals are numerous, but in very imperfect condition. The "Grand Canal," the largest in the world, is 650 miles long, but is in a sad state of repair, so that in some places it cannot be used.

The Chinese government refused to open the country to railroads and telegraphs, and destroyed, in 1878, the first and only railroad it ever had. Very few steamboats navigate the rivers, and these under restrictions. This people seems to have a natural abhorrence to all modern improvements; however, there seems to be a change of feeling on this point. All their implements are of the rudest kind.

INHABITANTS.

20. The Chinese, or "Sons of Han," as they call themselves, belong to the Mongolian race. They are on an average five feet four inches tall.

In their habits they are filthy, but industrious, skillful, polite and provident. They are cowardly and of low morals, though not excitable nor revengeful, yet when they once become aroused they are exceedingly cruel. They are vain, and love their country with considerable devotion.

On the approach of cold weather the Chinaman kindles no fire in his dwelling, but puts on additional clothing. He looks upon cold water with abomination, either as a beverage or for washing. "The costume of the women differs but little from that of the men, and their shoes are the most remarkable part of their toilet." The female infant's feet are compressed and not allowed to grow, so that the shoes of an adult woman measures three and one-half inches in length. The poorer people never change their garments until they will no longer stay on them.

POPULATION.

21. The following is the population of the divisions of the Empire:

China Proper	405,300,000
Mantchooria	12,000,000
Thibet	6,000,000
Mongolia	2,600,000
Corea	8,500,000
Turkestan	600,000

Total population of the Empire 435,000,000

OCCUPATION.

22. Agriculture is held in higher estimation than in any other part of the world.

On the first day of each year the emperor, with his officers, repairs to the "Sacred Field" and plows a furrow with his own hand; the princes and ministers follow his example. A like solemnity is performed by every governor of the provinces.

Much of the land is cultivated with the spade, and irrigation is successfully carried on. Manufacturing is diligently pursued, and commerce is active. Sixteen ports are open to foreign trade.

Mining, considering the mineral wealth, is neglected, and the vast stores remain hidden in the earth. Oyster and pearl fisheries are profitable.

GOVERNMENT.

23. The government is despotic, the emperor being assisted by a privy council. The laws are rigid, but mildly administered. China Proper is divided into eighteen provinces, each of which is presided over by a governor. The executive system is based on competitive examinations, intended to sift out of the millions of educated the best for the official positions. These examinations are held once every three years.

EDUCATION.

24. Education is regarded as the high road to official employment, to rank, wealth, and influence, and is eagerly sought by all classes. The government provides state examinations, but does not otherwise assist in the support of the schools.

The Chinese have no alphabet, but a distinct character for every word. In reading a Chinese book you begin at the bottom instead of the top, and the pupils in studying read at the top of their voices.

The quality of their education is very inferior to that of Europe. In mathematics they are deficient, but have made some progress since their acquaintance with European mathematical works. Their astronomy is the astrology of the ancients. Their geographical knowledge

is confined mainly to their own country. In artistic workmanship they defy comparison with Christian art, but their designs are the most grotesque and incongruous. Their music is painfully discordant to cultivated ears. They have many kinds of musical instruments, but have no knowledge of rhythm, melody, or harmony. "Their singing is with the falsetto voice, between a squeal and a scream."

Those who fail to pass the examinations for the higher offices are employed as school teachers, notaries, clerks. All the people learn to read the same language, but the dialects are so numerous and difficult that, in conversation, the people of one province cannot understand those of any other province.

RELIGION.

25. The religion of Confucius, which is a mere system of worldly morality, is adopted by the court. Buddhism, called the religion of Fo, is the faith of the masses.

"The worship of ancestors is a remarkable and prominent feature of Chinese social life." The people generally have no fear of death, and suicides are common. They never refer to death in direct terms, but paraphrase by such expressions as the person "exists no more," "he has saluted the age," "ascended to the sky."

"The Chinese philosophy is atheistical, and deduces the development of the universe from one unintelligent and will-less principle." Hence all educated Chinese are atheists, at least theoretically.

CUSTOMS.

26. A Chinaman, when he meets you, takes off his shoes instead of his hat; he shakes his own hands instead of his friend's. He wears no covering on his head, and all the hair of his head is shaven off, except a bunch on the top, which is braided into the "pig-tail."

The officials are divided into ranks, and each rank is distinguished by the button on the cap.

They educate the boys, but not the girls. The place of honor is on the left hand. They eat with two sticks instead of knives and forks. They use but little tobacco, but are addicted to the opium habit. White is the color of mourning, black that of gayety.

The "Flowery Land" is a name given by the inhabitants of China to their country, because they regard themselves the most polished and civilized nation on the globe.

INVENTIONS.

27. The Chinese have given many important inventions to the world. The art of paper-making was known in the first century. Printing from wooden blocks was invented in the sixth century. The compass has been in use among them for several thousand years.

Except the telegraph and steam engine, scarcely any great modern invention has been made which has not been in use among them for many centuries.

CITIES.

28. These are numerous, and many of them quite large. All reports concerning the number of inhabitants are only approximate, as no census of these cities is ever taken, or, at least, foreigners do not get the exact figures. The description of the principal cities has been given under Asia.

Cities.	Population.	Cities.	Population.
Pekin	500,000	Kashgar	70,000
Canton	1,500,000	Nankin	500,000
Foo Chow	600,000	Tientsin	930,000
Han Kow	from 500,000 to 3,000,000	Takow	235,000
Shanghai	278,000	Amoy	88,000
Hong Kong	170,000	Singtan	1,000,000
Ningpo	120,000	Victoria	102,000

HISTORY.

The Chinese records go back several thousand years before the Christian era. These are fabulous; but there is no doubt that China is the oldest existing dominion on the face of the globe. After several dynasties had passed away Confucius, the celebrated moralist, philosopher, and law-giver, was born, 549 B. C. In the year 215 B. C., the Great Wall was built, as a defense against the Tartars. In 1203 Zingis Khan conquered the northern provinces. Kublai Khan, his grandson, subjugated the country in 1280. The Tartars were driven out in 1368.

In 1664 the Mantchoo Tartars conquered the country, and established the present line of sovereigns, which has insured peace between China and its northern provinces. King Long, an emperor distinguished for his intelligence, died in 1799.

In 1840 a war broke out between Great Britain and China, in consequence of the destruction, by the Chinese, of a large quantity of opium, which was about to be smuggled into Canton. The Chinese were defeated in numerous engagements, and were compelled to pay \$21,000,000, and to open to foreign trade, besides the port of Canton, Amoy, Foo Chow, Ningpo, and Shanghai, ceding, also, the island of Hong Kong to the English in perpetuity. The present emperor is Kwong Shu. He was born in 1871, and became emperor January 12, 1875.

CHAPTER XLIV.

JAPAN.

MAP EXERCISES.

Name the four largest islands. What sea west of them? What can east? What strait separates Corea from the two southern islands? Name and locate Yokohama, Yeddo, Osaca, Miako, Hakodadi, Nagasaki. What volcano on the island of Nippon? Give the latitude and longitude of the capital. What is the time of day at Yeddo? By means of the scale of miles estimate the distance from Yeddo to Pekin; to Cape Lopatka; to Calcutta; to San Francisco; to the Philippine islands.

DESCRIPTION.

POSITION.

1. Japan lies east of the Chinese Empire, from which it is separated by the Japan sea and the strait of Corea. It is situated between 31° and 46° north, and between 125° and 145° west.

EXTENT.

2. This empire is said to comprise 3,850 islands, whose area is 155,520 square miles.

COAST.

3. The coasts of the larger islands are exceedingly irregular, being indented by large gulfs and bays. Nearly all the shores are difficult of access, being surrounded by numerous rocks and a shallow sea.

SURFACE.

3. The surface is in general uneven, in many instances rising into mountains of considerable elevation. Fusi-yama, the sacred mountain of Japan, is the highest peak—an extinct volcano—its elevation is about 12,000 feet. There are some plains of considerable extent.

SOIL.

5. In nearly all parts the soil is very fertile. Some of the mountainous regions are rugged.

CLIMATE.

6. The climate of Japan is extremely various, being exceedingly cold on the north, but is still warmer than its latitude would indicate. In the southern parts of Nippon ("fountain or source of light") the temperature ranges from 25° to 104° . Rains are frequent, storms and hurricanes also occur.

AGRICULTURAL PRODUCTIONS.

7. Partaking of the climate of both the torrid and temperate zones, the vegetation is greatly varied. Cotton, rice, potatoes, gourds, fruits, silk, hemp, ginger, tobacco, tea, are the principal articles.

The forest trees are ash, maple, ironwood, cypress, fir, camphor, and varnish.

MANUFACTURES.

8. In their manufactures they greatly excel the Chinese. The principal articles are sword-blades, metallic goods, silk, cotton, porcelain, lacquered ware, and paper.

MINERALS.

9. Coal exists in many localities. Iron is plentiful, as well as petroleum, copper, gold, silver, lead, tin, sulphur, antimony, quicksilver, salt. Both tin and copper are of the very best quality.

ANIMALS.

10. Horses are numerous, but they are of small size, and are only used for the saddle. There are no mules, asses, camels or elephants, and pigs and sheep are few. There is an immense number of foxes, as well as some bear, hyenas, deer, hares, monkeys, wild boar, etc. Notwithstanding the thousands of cats, the country is overrun with rats and mice.

COMMERCE.

11. Nearly one-half of the commerce is with Great Britain. The exports in 1879 were \$28,712,000, one-half of which was raw silk. In addition the Japanese export tea, copper, Japan ware, porcelain, and camphor. The imports amounted to \$33,000,000, and consisted chiefly of waxes, spices, ivory, lead, cottons, woollens, and linen.

INTERNAL IMPROVEMENTS.

12. Within the last few years Japan has made unexampled progress in the introduction and adoption of European manners and customs. The whole country is being revolutionized in this respect.

Telegraphs and railroads are being rapidly constructed, and thousands of miles of the former are already in use.

INHABITANTS.

13. The population in 1876 was 34,338,000. They belong to the Mongol race, and exhibit courage, frankness, good humor, and politeness.

They are divided into eight classes, viz.: Princes, nobles, priests, soldiers, civil officers, merchants, artisans, and laborers. This distinction is carefully preserved, each following the profession of his father.

CUSTOMS.

14. The men wear no hats except on rainy days, and shave the front and crown of the head; the rest of the hair is kept long and spread over the bare head. The women paint their faces, color their lips purple, and when married blacken their teeth, and pull out their eyebrows. They are lax in morals, though they do not practice polygamy. All are slaves to ridiculous and tyrannical etiquette.

OCCUPATIONS.

15. The people are engaged chiefly in agriculture, and many find employment in commerce, fishing, manufacturing, and the like. The rearing of cattle is an important industry. The ox and buffalo are used as beasts of burden. The Japanese are admirable workers in metals.

GOVERNMENT.

16. The government is despotic, and the laws are rigorous. The army comprises 36,777 men (1878), twenty-seven ships of war, manned by 5,551 men. National debt, \$363,726,000. Name of emperor, Mutsu Hito, twenty years old.

EDUCATION.

17. There is a university at Tokio, and a normal school for the training of teachers. The Japanese are apt in learning, and are fond of military life. The per cent. of illiteracy is still great, though the education of the youth has received a great stimulus. The people speak the Japanese language.

RELIGION.

18. The majority of the people are Buddhists, but there are many followers of Confucius, and some Christians.

The people are not noted for their morality, and pay little regard to truth or chastity.

CHIEF TOWNS.

19. *Tokio*, the capital, is the largest city of the empire, covering an area of sixty square miles. Nearly every house has a garden attached. It burns down about once in seven years.

Yokohama is the sea-port of the former. The name means "cross-shore," so-called from the number of streets running north and south, intersected by short cross-streets.

Hakodadi, the principal town of Yesso, on the southern shore, has a deep and capacious harbor.

Osaca, on the island of Nippon, has a large trade. It has a steam paper mill, arsenals, schools, well paved streets, and many canals, over which are 1,100 bridges. The city abounds in theatres and places of amusement. It has over 1,900 places of worship.

POPULATION OF CITIES.

Tokio (or Yeddo)	780,000	Kioto	567,000
Yokohama	62,000	Hakodadi	112,000
Osaca	530,000	Nagasaki	70,000

HISTORY.

20. The history of Japan is obscure. The people are probably of Chinese origin. About the year 1550 A. D. the Portuguese sent Jesuit missionaries, who converted a considerable portion of the people to Christianity. One Jesuit priest baptized 70,000 persons in two years—about 1579. In 1587 the Catholic religion was forbidden, and some priests and converts were executed. Those who continued to be Christians were persecuted.

In 1640 all foreigners were excluded from the country except the Dutch, who were permitted to reside at Nagasaki, and have for a long time since continued to engross the chief European trade.

CHAPTER XLV.

AFRICA.

MAP EXERCISES.

Locate the following:

CAPES.

Bon, Verde, Good Hope, Guardafui, Agulhas, Corrientes, Frio, Negro, Lopez, St. Paul, Three Points, Palmas, Blanco, Bojador, Nun, Amber, S. Marie.

GULFS AND BAYS.

Cabez, Sidra, Suez, Aden, False, Table, Walfish, Biafra, Benin, Delagoa, Algoa.

MOUNTAIN RANGES.

Atlas, Crystal, Kong, Lupata, Nieuweveld, Dragon, Matoppos, Blue.

MOUNTAIN PEAKS.

Cameroon, Kilimanjaro, Kenia, Milstin, Compas.

ISLANDS.

Madagascar, Amiranto, Comoro, Seychelle, Mascarene, Zanzibar, St. Helena, Ascension, Annobon, St. Thomas, Fernando Po, Canary, Verde, Madeira, Azores, Socotra.

RIVERS.

Nile, Congo, Niger, Senegal, Gambia, Orange, Nourse, Limpopo, Coanza, Benue, Blue Nile, Gazelle, Atbara, Zambeze, Lukuga, Shari.

LAKES.

Albert, Victoria, Tanganyika, Bangweola, Tsad, Nyassa, Ngami, Dilolo, Tunis, Sankorro, Zana, Shirwa.

TOWNS.

Cairo, Alexandria, Tunis, Suez, Morocco, Tripoli, Fez, Algiers, Oran, Constantine, Berbera, Gondar, Cape Town, Petermaritsburg, Tananarivo, Zanzibar, Monrovia, Freetown, Port Natal, Mozambique, Cumassie, Abomey, Sokoto, Murzuk, Timbuktú, Abesher, Susa, Loango, Mossamedes, St. Paul de Loanda, Pretoria, Bethany, Graham's Town, Sego.

COUNTRIES.

Egypt, Nubia, Darfur, Kordofan, Zanguebar, Mozambique, Madagascar, Abyssinia, Somali, Upper Guinea, Lower Guinea, Cape Colony, Liberia, Ashantee, Sierra Leon, Senegambia, Morocco, Algiers, Tunis, Tripoli, Dahomey, Loango, Congo, Benguela, Mossamedes, Orange River Republic, Transvaal, Caffir Land, Zulu Land, Fezzan, Air, Moors, Tibesti.

RELATIVE POSITION.

In what direction is Morocco from Algiers? from Cairo? from Cumassie? from Cape Town? from Zanzibar, from St. Helena? from Kuka.

TRAVELS.

On what waters would a vessel sail in going from Cairo to Algiers? to Cape Town? to Suez? to Berbera? to Sebastopol? From Alexandria to New York? to Vera Cruz? to Hull? What countries would you cross in traveling by land from Nubia to Abomey? to Graham's Town? to Morocco? from Gondar to Sego? to Tunis? to Cape of Good Hope? to Mozambique?

MISCELLANEOUS.

What is the time at Cairo when it is noon at Columbus, Ohio? the time at Morocco? at Cape Town? What season at Cape Colony? at Algiers? at Timbuktú? At what place in Africa does the longest day occur? The shortest? What places in Africa have no latitude? Where is the sun perpendicular to-day at noon? What divisions of Africa are crossed by the 15° east longitude? What by the 35° ? On what circles of the earth is the greatest meridian altitude of the sun 90° ? 80° ? 70° ? 35° ? At the time of the "Equinoxes" on what circles is the meridian altitude 20 degrees? 45 degrees? 65 degrees? At the time of the "Winter Solstice," on what circle is the meridian altitude of the sun 20 degrees? 0° ? 80° ? 90° ? 50° ?

DESCRIPTION.

GENERAL STATEMENT.

1. Africa is remarkable for its burning climate, its singular animals, and its peculiar race of inhabitants.

POSITION.

2. (1) Africa is bounded on the north by the Mediterranean sea; on the east by the Isthmus of Suez, Red sea, and the Indian ocean; on the south by the Indian and Atlantic oceans, and on the west by the Atlantic ocean. (2) It lies between $37^{\circ} 20$ min. north and 35° south, and between $51^{\circ} 22$ min. east, and $17^{\circ} 33$ min. west longitude.

EXTENT.

3. Its greatest length is 5,000 miles and greatest breadth 4,800 miles. Area, 11,259,000 square miles.

Distance from	Miles.
Algiers to Cairo	1,900
" " Murzuk	900
" " Greece	1,050
" " Strait of Bab-el-Mandeb	3,000
" " Morocco	900
" " Paris	825
" " Madrid	450
" " London	1,050
" " St. Petersburg	2,100
Sicily to Africa	300
Africa to Spain	15

COAST.

4. Africa consists of a vast peninsula, with no bays setting deep into its sides, and no rivers navigable to any great extent. For these reasons it has been less accessible to discovery than other regions of the world, and hence large portions of its territory remain unexplored. The coast line measures 16,000 miles; about one mile of coast to every 710 miles of continental area. There are but few good harbors.

From Cape Negro to the Orange river, a distance of 900 miles, not a single stream of fresh water empties into the sea. The coast here is low and desert, while in and about Cape Colony it is bold and rocky.

CAPES.

5. The extreme capes of Africa are *Bon* on the north, *Guardafui* on the east, *Agulhas* on the south, and *Verde* on the west; the latter is so called from rich green covering of gigantic baobab trees. Other capes are *Blanco*, *Bojador*, *Non*, *Lopez*, *Delagoa*, etc.

The Cape of Good Hope was discovered in the search of a passage by sea to India. It was so called by the first discoverer, who thought it the southern point of Africa, and thus gave "Good Hope" of reaching India by sea.

Cape Non was the southernmost cape known in the latter part of the fifteenth century, and was so named because it was thought impossible to get beyond this cape.

GULFS AND BAYS.

6. The leading gulfs and bays are *Cabez* and *Sidra* on the north, tributary to the Mediterranean, etc.

SEAS.

7. But three seas wash the shores of Africa. *Mediterranean* on the north, *Red* and *Arabian* on the northeast.

CHANNELS AND STRAITS.

8. The *Strait of Gibraltar* separates Morocco from Spain, and connects the Atlantic with the Mediterranean; it is fifteen miles wide.

The *Strait of Bab-el-Mandeb* ("The Gate of Tears") derived its name from its dangerous navigation. It separates Abyssinia from Arabia, and is twenty miles wide. *Mozambique* channel, separating the island of Madagascar from the continent, is 250 to 600 miles wide, and 1,000 miles long.

ISLANDS.

9. There are several islands belonging to Africa, some of which are very fertile. Most of them have warm climates and yield tropical productions.

(2) *Gerba*.—On the coast of Tripoli is the small island of Gerba, which is noted for its monument of Christian skulls, gathered from a battle-field in the vicinity, and heaped upon a rock, where it has remained for several centuries. It serves to keep alive that hatred which the Mohammedans have been accustomed to indulge toward Christians.

(3) *Azores*.—These are nine in number, about 900 miles west of Portugal, and present a very rugged aspect. They produce wines and brandy, oranges, lemons, salt pork, beef. There are few good harbors. Population, 27,000.

(4) *Cape Verde* ("Green").—This group consists of fifteen principal, with some smaller islands; they contain the celebrated volcano Fogo, 9,150 feet high.

There are but few trees, and there is great scarcity of water. The products are fruits, maize, beans, coffee, sugar, tobacco, red coral, salt, oil-nuts, cattle, pigs, goats, asses, fowls, and amber. Area, 1,680 square miles. Population, 91,000.

(5) *Canary* ("Happy Islands").—These belong to Spain, and are situated sixty miles from the coast; they consist of seven principal islands, and are singular in formation and productions. The hot winds from the continent often destroy the vegetation and induce disease.

The Canary bird is a native of these islands. The chief productions are cochineal, oil, grain, silk, wine, raisins, potatoes, sugar-cane, and fruits. Commerce is carried on chiefly with the United States and England. Area, 2,980 square miles. Population, 285,000.

(6) *St. Helena*, which is crowned by a lofty rock, belongs to the British, and was the prison of Napoleon Bonaparte till his death, in 1821. It is 700 miles from Ascension; 1,400 miles from Africa, and 2,000 miles from Brazil.

Ascension, to the north-west of *St. Helena*, is a small, barren island, with a fine harbor, and abounding in fish and sea-fowl. This and *St. Helena* are the resorts of ships traversing the seas.

(7) *Mauritius*, or the Isle of France, belongs to England, and is noted for a lofty mountain, crowned by a rocky peak, called Peter Botte's Mountain.

It is a very beautiful island, but more than a hundred years ago a young lady returning from France to her home, and her lover, was drowned near this island, and in sight of the land she was seeking. Her history gave rise to the beautiful story of "Paul and Virginia." It is much subject to devastating storms. Bourbon belongs to France, and is famous for its volcano, whose burning fires serve to light the mariner on his way. Socotra belongs to Keshin, an Arabian state, and is noted for its trade in aloes. Area, 1,000 square miles. Population, 5,000. Comoro islands are noted for their cattle and fish.

(8) *Madagascar*, in the Indian ocean, twice as large as Great Britain, containing 228,000 square miles, has a fine soil and a numerous population. Silk-worms are reared, and honey and wax are produced in great abundance in the woods. The mountains supply gold, silver, lead and iron.

The inhabitants manufacture iron utensils, and work in gold and silver articles. They are divided into several tribes, all of which are barbarians. This island was known to the Arabs in the thirteenth century. In 1642 the French settled upon it, and made several attempts to colonize it, but without success. European missionaries were protected by one of their late kings, but in 1835 Christianity was prohibited; and in 1845 all Europeans were expelled.

SURFACE.

10. A general description of Africa must be imperfect, owing to its great size and consequent diversity.

Africa has mountain ranges near its coast almost completely enclosing its interior. It is sometimes likened to a huge trough, the mountains forming its sides.

The northern part contains the plateaus of Hamada and Barca.

The interior is supposed to be moderately elevated, as many of the most important rivers take their rise in about the same region.

The southern part is a vast table-land, sloping gently towards the north.

MOUNTAIN RANGES.

11. The *Atlas* mountains are in north-western Africa, trending through the Barbary States from north-east to south-west.

The name *Atlas* was derived from Atlas, King of Mauritania, and one of the gods of the ancients. He is said to have been the first who taught that heaven

had the form of a globe. Ovid relates that Perseus having been refused shelter by Atlas, changed him, by means of the head of Medusa, into a mountain on which rested the firmament.

The Atlas mountains are 1,500 miles long and 4,000 feet high; the *Kong* mountains have an average elevation of 2,500 feet; the *Snowy*, 10,000 feet.

MOUNTAIN PEAKS.

12. The following are the highest peaks :

Name.	Height.	Name.	Height.
Milstin	11,400 feet.	Table Mountain	3,000 feet.
Kilimanjaro	20,000 "	Volcano Fogo	9,150 "
Kenia	20,000 "	Teneriffe	12,200 "
Peak of Pico	7,000 "	Spitz Kop	10,240 "

PLAINS, PLATEAUS, ETC.

13. The *Highlands of Abyssinia* are from 6,000 to 8,000 feet high. The *Plateaus of Barca* and *Hamada* are in the northern part.

The *Kilihari Desert*, in southern Africa, is an extensive arid region.

The *Great Karroo Plains*, in Cape Colony, are vast areas "annually covered with a rich vegetation and pastured by numerous herds, but when the dry season comes they are arid deserts."

The *Sahara* is the most extensive desert region on the globe. This sea of sand stretches from the Atlantic nearly to the shores of the Red sea.

It consists of a table-land raised a little above the level of the sea, covered with moving sand, and here and there containing some rocky heights, and valleys where water collects, and nourishes a few thorny shrubs, ferns, and grasses. The desert, however, has some fertile spots called oases; the largest is Fezzan. The desert is crossed by companies called caravans, the people being generally mounted on camels. This animal, sometimes called the "Ship of the Desert," is able to bear the burning heat of these regions. It can drink water enough to last several days, and the soles of its feet are like a cushion, just adapted to traveling over hard, stony ground.

Travelers in the desert are often beset by predatory tribes, and sometimes are overwhelmed by drifting sand.

Parts of the Sahara are from 80 to 340 feet below the sea-level. It is supposed to have been, at some time, in part, covered by the sea. Since these low places approach so near the sea, one on the northern part, and another in the western, there is a project to tunnel into the sea and let in the water, and so convert these low places into inland seas. It is claimed that in this way the rain-fall would be increased and the remainder of the Sahara become a fruitful country.

A portion of *Abyssinia* is also about 570 feet below the sea-level. The Sahara is about 3,000 miles long by 1,000 wide, and embraces nearly 3,000,000 square miles; in other words, it is about three times as large as the Mediterranean.

OBJECTS OF INTEREST.

14. Africa is so imperfectly known that a satisfactory description of its curiosities cannot be given.

The *Victoria Falls*, of the Zambeze river, are about 400 feet high. During the dry season but little water falls over the precipice, but when the river is full it is one of the most magnificent cataracts known.

"After a descent of a few feet, the water breaks into a white mass like a sheet of driven snow, and sends up columns of vapor 800 feet above the brink of the falls," in which are seen the most beautiful colors the eye can behold.

Egypt is a very interesting country to the historian and the traveler. It abounds in ruins of every description and of the most stupendous proportions.

Table Mountain, in Cape Colony, is an object of remarkable interest. From its summit the eye wanders with delight around the circumference of the horizon. It owes its name to its peculiar shape and flattened summit. A white mist sometimes shows itself on the mountain, called "spreading the table-cloth."

Other portions of Africa are of interest to the student of nature, but the climate is so unhealthy that few will risk their lives in attempting to explore this great continent, and to reveal its mysteries and curiosities to the world.

LAKES.

15. The lakes of Africa are for the most part unimportant. They are generally shallow, and many during the dry season become mere stagnant pools of water, breeding disease, or they dry up entirely.

Some of them, as *Nyassa*, *Zana*, and *Albert* are very deep; the former is subject to sudden and violent storms which lash its waters to fearful heights.

Fish and other animals exist in most of them. The lakes of the Barbary states are so salt that during the summer when they are nearly dry they leave incrustations of salt along their shores.

The following list includes the important lakes of Africa.

Lakes.	Length. Miles.	Breadth. Miles.	Area. Square Miles.	Height above sea level.
Tsad	150	120	10,000 to 50,000	1,150
Victoria	200	200	30,000	3,000
Albert	150	50	28,000	2,700
Nyassa	350	20 to 60	13,000	1,520
Ngami	60	25	1,200	3,300
Tanganyika	480	10 to 60	11,000	2,800
Bangweola	150	70	9,000	4,000
Zana, or Dembea.	60	25	1,300	

RIVERS.

16. The rivers of Africa, like her lakes, are for the most part commercially unimportant; they are broad and shallow streams, and thus

afford little navigation. The most important river is the *Nile*, remarkable for its annual overflow, which brings a great deal of rich soil down from its upper course, and distributes it over the lower country through which it flows, and this fertile valley is thus called the "Gift of the Nile."

This remarkable river has not a single tributary in the last 1,500 miles of its course, and gradually diminishes in size as it approaches the sea. Its delta has an area of more than 11,000 square miles.

The *Congo* is a vast river, emptying its muddy waters into the Atlantic. The *Zambeze* is noted for its "falls." The *Niger* loses much of its water by sinking into the sand near its mouth.

Rivers.	Length. Miles.	Area of Basin. Square Miles.	Remarks.
Nile . . .	4,000	1,425,000	Eleven mouths; numerous cataracts in its upper course.
Congo . . .	3,000		1,400 miles of navigation; thirty-five cataracts.
Senegal. . .	1,000		Navigable 450 miles for flat-bottomed boats.
Senegambia .	1,000		Navigable 150 miles. Mouth four miles wide.
Niger . . .	3,000		Twenty-two mouths; 1,800 miles of navigation when full of water.
Zambeze . .	1,800	446,000	Affords little navigation; bars across its mouth.
Limpopo . .			Vessels of 200 tons can ascend sixty miles.
Orange. . .	1,150		Flows through a desert country.

SOIL.

17. The soil is various; vast tracts consist of barren sands. The parts along the shores, except along the coast of Sahara, are very fertile. The interior is but little known, but so far as known it consists of extensive sterile regions, alternating with fertile valleys.

The soil along the borders of the Great Desert is not well adapted to farming, as it is too dry; the date palm flourishes here best, as it requires a dry, sandy soil.

CLIMATE.

18. Owing to the position of Africa, the greater part of it lying in the torrid zone, and to the extent of its arid plains, its climate is excessive, and the temperature higher than in any other part of the world.

In the deserts of the Sahara and Nubia the heat is the most oppressive that can be imagined.

The Arabs say, "The soil is like fire and the wind like a flame;" yet, while the temperature sometimes rises to 150° Fahr. during the day, it sinks so

rapidly during the night that it freezes. This is caused by the dryness of the air, allowing radiation to go on very rapidly during the night, and heating during the day.

The hot winds from the Sahara are called simoons, and are very destructive.

In the equatorial regions it rains for six months almost incessantly; during the rest of the year it is dry.

In some places there are two rainy seasons and two dry seasons in one year.

The greatest annual rain-fall occurs at Sierra Leone, 189.6 inches.

The hot winds of the Sahara rising, draw in the moist winds from the sea, whose vapors are condensed by the mountains along the coast and clouds drop their moisture in copious showers.

Along the western coast of Africa, within the tropics, and in many other places, the climate is very unhealthy, especially to white men.

The hottest part of Africa extends in a broad belt from the lower part of the Red sea to the Gulf of Guinea. It has an average temperature of eighty-one degrees. The Sahara has an average temperature of seventy-nine degrees; Cape Colony, sixty-eight degrees.

VEGETABLE PRODUCTIONS.

19. Africa presents the most striking contrasts in its vegetation. A great part of its surface consists of arid deserts; but in the vicinity of these there are countries covered with the richest verdure. Wherever the land is watered vegetation is characterized by the utmost vigor and magnificence.

The Barbary states are covered with groves of oranges and olives, with fields of maize, cotton, wheat, sugar-cane, and the grape; with forests of evergreens, oak, pines, cork-trees, cypresses, arbutus, and myrtle.

Egypt produces cotton, acacia, onions, fruits, tamarind, sugar, wheat, rice and corn.

The coffee tree grows in Abyssinia, Liberia, and other places.

Cotton and indigo grow wild in Soudan.

Lemons and citrons grow in nearly all parts.

The most dense forests imaginable cover central Africa.

In south Africa many of the grains of the temperate zones flourish.

North-east Africa produces frankincense, myrrh, cinnamon, and other spices.

MINERALS.

20. The chief minerals of Africa, so far as known, are gold, iron, copper, diamonds, salt, granite, limestone, and sandstone.

Gold seems most abundant in south Africa; diamonds along the Orange river; and iron in Soudan.

MANUFACTURES.

21. The manufactures of Africa are unimportant. They consist of morocco leather, oils, cotton and silk goods, and a few rude implements of war and agriculture.

COMMERCE.

22. Owing to its barbarous state, its want of deep inlets and navigable lakes and rivers, and its unhealthy climate, Africa is far behind the other grand divisions in the amount and value of its commerce.

The chief articles of export are gold, ivory, hides, morocco leather, dates, palm oil, gums, wax, ostrich feathers, spices, slaves, etc.

About 10,000 slaves are annually sent from Lake Tsad to the coast of the Mediterranean. The whole route is strewn with the skeletons of those who have perished on the way.

The imports are various articles, chiefly from Europe and America; cloth, trinkets, and ornaments, which are bartered to the natives.

NATURAL ADVANTAGES.

23. The pupil should here be required to give the natural advantages of Africa, according to preceding models

INTERNAL IMPROVEMENTS.

24. Africa is lacking in internal improvements. There are a few railroads built by Europeans. Several important lines of railway have been proposed which when completed will open vast territory of this "Dark Continent." Already 4,500 miles of railway have been built, of which Egypt has 1,300 miles, Cape Colony 1,650 miles, and Algiers 1,050 miles.

Egypt is well supplied with a net work of railroads managed by the government.

Public roads and bridges, such as are known in our country and in Europe, are not known here.

The Suez Canal, connecting the Mediterranean and Red seas, was built chiefly by the French, but is now under the control of the English. It was formally opened November 17, 1869. It is 100 miles long, 325 feet wide at the top and seventy-five at the bottom, and twenty-six feet deep; cost about \$55,000,000. There are numerous smaller canals in Egypt, used for irrigating the land.

ANIMALS.

25. Africa is remarkable for the multitude and variety of its animals. The giraffe, the tallest of animals; the hippopotamus, an enormous beast resembling the hog; the chimpanzee, a large ape, formed more like a man than any other creature; the zebra and quagga, beautifully striped and resembling the horse; the gnu, or horned horse, are all peculiar to Africa.

This country also, in company with Asia, has troops of elephants, herds of wild deer, the rhinoceros, hyena, ostrich, crocodile, and serpents of monstrous size.

The termites or white ants swarm in the tropical regions, and build their hills to the height of twelve feet; the interior displaying bridges, archways, and passages most ingeniously contrived.

The social weaver, a small kind of bird, associate together, and build a common nest on a tree, shaped like an umbrella, in which several hundred live together.

The ostrich is found along the desert and open plains. The guinea-fowl is indigenous to western Africa.

Besides these, there are thousands of insects in every quarter, among which are the locust, a scourge of this continent from time immemorial, and the tsetse, a fly about as large as a common house-fly, whose bite is fatal to horses and cattle, but harmless to man; it is found in south Africa. Huge serpents infest all parts and are the dread of the inhabitants.

POPULATION.

26. The inhabitants consist chiefly of Moors, who occupy the Barbary states; Arabs, who inhabit the Great Desert and its borders; Negroes, who are spread over the middle and southern portion; Caffirs and mixed races, who occupy the south-eastern border. There are also many tribes scattered here and there, which partake more or less of these several races. The English occupy the extreme southern part, and many French live in Algeria.

NUMBER OF INHABITANTS.

27. So little is known of Africa that barely an approximate estimate can be made as to the number of inhabitants.

The following table gives the population of some of the principal states.

Divisions.	Area in Square Miles.	Population.
Morocco	312,000	7,829,000
Algeria	257,000	2,868,000
Tunis	43,000	2,100,000
Tripoli	397,000	1,010,000
Desert of Sahara	2,381,000	2,850,000
Egypt	1,149,000	17,420,000
Soudan, Central	660,000	31,770,000
Soudan, Western and Upper Guinea	767,000	43,600,000
Havar	707,000	15,500,000
Central Africa	1,528,000	47,000,000
Portuguese Possessions	73,000	10,000,000
Orange Freestate	372,000	75,000
British South Africa	372,000	1,966,000
Islands	241,000	3,982,000
Total	11,259,000	205,167,000

OCCUPATIONS.

28. The chief occupations in the more civilized portions are farming, hunting ostriches, selecting ivory. The great bulk of the inhabitants are savages, and have no useful pursuits. The leading pursuits of the inhabitants of Cape Colony are stock-raising and ostrich-farming.

LANGUAGE.

29. Our ignorance of this "Dark Continent" renders it impossible to give a correct account of the language. Where settled by Europeans, European languages are used. It is estimated that not less than 150 different languages are spoken in Africa.

GOVERNMENT.

30. Nearly all the governments are despotic. A large retinue of soldiers always attend the despot, and in Morocco, and other countries, every one whom the despot meets must fall with his face to the earth till the procession has passed. Under the benign influence of Christianity the social condition of the inhabitants is improving.

EDUCATION.

31. A few schools exist in the foreign settlements. Among the natives there is the greatest ignorance, degradation and vice.

RELIGION.

32. In northern Africa the people are chiefly Mohammedans, but in many places their religion is mixed with the pagan worship.

The vast majority are in a condition of the darkest heathenism. Superstition reigns supreme, and women are treated as slaves.

POLITICAL DIVISIONS.

33. The political divisions are given in the map exercises, to which refer.

FOREIGN POSSESSIONS.

34. Algeria belongs to France; the French have also possessions on the Senegal and Gambia river. The British have settlements in Cape Colony, Sierra Leone, Natal, and the Gold Coast. The Canary islands, Fernando Po, Annobon belonging to Spain. The Portuguese possessions are on the east coast of Mozambique, Angola, and Benguela.

CHIEF TOWNS.

35. The cities of Africa are ill built, with narrow, crooked and gloomy streets. The following are the most important:

Cairo (350,000), "The Victorious," is on the Nile, five miles from the commencement of the delta. It has eighty public baths, three hundred mosques, and a Mohammedan university of 11,000 students. Climate is healthy.

Alexandria (212,000), so named by its founder, Alexander the Great, is the emporium of Egypt. It is the oldest existing city of Africa, having been founded in 332 B. C.

It is 112 miles from Cairo, and exports corn, cotton, rice, wool, gums, dates, sugar; and imports woolen and silk goods, hardware, coal, machinery, etc. Its library, founded by Ptolemy Philadelphus, was the largest of ancient times, numbering 700,000 volumes, and was accidentally destroyed by fire in the wars with Julius Caesar and Caliph Omar. At one time the city contained 650,000 inhabitants. "Pompey's Pillar and the catacombs at the Necropolis are the most interesting remains of antiquity."

Tripoli (20,000), on a rocky promontory of the Mediterranean, 300 miles from Sicily, and 600 miles from Algiers, has a fine harbor; owing to the marshes near by the climate is unhealthy.

Tunis (125,000) is about three miles from the ancient city of Carthage. It is a very ugly city, and everything is exceedingly filthy. Its population numbers 25,000 Jews.

Morocco (40,000), formerly the capital of Morocco, and at one time a flourishing city, is now half in ruins. In its appearance it resembles Tunis. Its walls are entered by eleven gates.

Algiers (52,000) is built on the north slope of a hill 500 feet high, and facing the Mediterranean. Its houses are painted white, and the city presents a fine appearance at a distance on the sea. There are some fine squares and public gardens.

Fez (65,000) is the capital, and most important city in Morocco. The streets are dark and extremely filthy, the houses are high. Ten thousand Jews live here.

Cape Town (45,000) is the principal city of Cape Colony, and is well paved, well lighted, and contains several colleges, hospitals, and public gardens.

Tananarivo (75,000), the capital of Madagascar, has a fine situation in the center of the island, and contains manufactures of beautiful gold and silver chains, and silk goods.

Mozambique (35,000) is on a fine bay (five and one-half miles long, and five miles wide) on the eastern coast.

Other cities are *Zanzibar*, 80,000; *Oran*, 34,000; *Pretoria* (small city); *Constantina*, 35,000; *Monrovia*, 1,000; *Free Town*, 15,000; *Berbera* (small city).

HISTORY.

36. Though Africa gave birth to many arts and sciences, yet in no part of the world are the masses of the people so ignorant and degraded. Egypt, 3,000 years ago, was the chief seat of human learning, and thence civilization spread over the world. Carthage, in northern Africa, was distinguished for its power and civilization, becoming for a time the competitor of ancient Rome. In the subsequent ages, even Egypt and other enlightened portions of the continent

were buried in barbarism, from which they have not since emerged. In all ages the negro natives appear to have been nearly the same as now, without books or education, or enlightened institutions.

ANCIENT GEOGRAPHY.

37. The ancients appear to have had very inadequate and erroneous notions respecting Africa. The name which is now given to the whole continent was restricted to a small territory, including Carthage and its vicinity. The ancients were only acquainted with the northern and eastern coasts, and deemed it less extensive than Europe. The Carthaginians, it is supposed, circumnavigated Africa; but no distinct idea of its geography seems to have been formed by them. Indeed, this division of the world in the early ages was a region of mystery, and continued so even down to the present century. It is but recently that the sources of the Nile and Niger have been ascertained; and even now, the great interior region, called Ethiopia, is an unknown land.

CHAPTER XLVI.

DOMINION OF THE KHEDIVE.

MAP EXERCISES.

Locate the following:

POLITICAL DIVISIONS.

Egypt, Nubia, Kordofan and Darfur.

RIVERS.

Nile, Atbara, Blue Nile, Arab, Gazelle.

CITIES.

Cairo, Alexandria, Suez, Rosetta, Khartum, Damietta.

MISCELLANEOUS.

Bound Egypt. What is the latitude and longitude of its capital? What is the difference of time and distance in miles between Cairo and London? In what zone is Egypt?

DESCRIPTION.

EXTENT.

1. Areas and population of the divisions of the Dominion of the Khedive.

Divisions.	Area in Sq. Miles.	Population.
Egypt.	213,000	5,252,000
Nubia.	334,000	1,000,000
Darfur	106,000	5,000,000
Kordofan	58,000	2,170,000
Total population		13,422,000

SURFACE.

2. This famous country is a long and narrow strip of land lying between two ranges of mountains, and traversed by the Nile. Darfur is an immense oasis of the Sahara, and Kordofan is a vast level tract.

RIVERS.

3. The *Nile*, after a course of more than 4,000 miles, empties into the Mediterranean through eleven mouths.

This river is remarkable for its overflow which fertilizes its banks. It receives not a single tributary during the last 1,500 miles of its course, and the river grows smaller near its mouth, owing to the evaporation of its waters and to the sinking away of some of them through the sands.

Its upper course contains many rapids and falls, and some fine scenery. The chief tributaries of the Nile are the *Atbara* and *Blue Nile* on the east, and the *Gazelle* on the west.

SOIL.

4. The valley of the Nile and the delta, embracing an area of 11,350 square miles, is celebrated for its fertility. Nubia, formerly called Ethiopia, once the seat of populous and civilized nations, is now marked with barbarism and desolation. It is composed of rocky and sandy deserts, with strips of fertile soil. The average width of the valley of the Nile is about eight miles.

CLIMATE.

5. It seldom rains in Egypt, but in the regions of the upper Nile the rains are abundant, which give rise to the floods. The climate is hot and dry, and the country is subject to the plague.

The temperature of the delta is considerably modified by the proximity to the sea, and the north winds.

VEGETATION.

6. Sugar, corn, rice, cotton, tobacco, and indigo are the chief products.

The waters of the Nile, during the period of inundation are collected in reservoirs, and afterward used for irrigating the land.

Oranges, dates, figs, and tamarinds are of an excellent quality. Forest trees are scarce, but many have been planted of late years, and an increase of rain-fall has resulted.

ANIMALS.

7. The gazelle, hyena, and jackal are animals of the desert. Crocodiles and hippopotamuses are numerous in the middle and upper courses of the Nile.

Nearly all the domestic animals of Europe are bred here. Poultry and pigeons are kept in enormous numbers; the eggs of the former are hatched out in artificial ovens. Camels, buffaloes, donkeys, and mules are extensively raised.

MANUFACTURES.

8. The manufacturing interests of Egypt consist chiefly in the weaving of cotton, linen, and woolen fabrics, and in the manufacture of leather, coarse pottery, glassware, and household goods. Outside of Egypt there is little manufacturing.

COMMERCE.

9. Egypt has extensive foreign trade, which is facilitated by the numerous railroads already in operation. There are many canals of great size, upon which and the Nile steamboats ply.

The leading articles of export are cotton, sugar, pulse, wheat, ivory, senna, and gums.

The imported staples are woven goods, petroleum, timber, iron, and coal.

Great Britain monopolizes more than half the commerce; France, Austria, and Italy also have large interests. The trade with Soudan is large. The exports (of 1880) amounted to \$52,000,000, and the imports to about \$26,200,000.

INHABITANTS.

10. The greater number of the people are Arabs. The Copts, the descendants of the ancient Egyptians, form about one-third of the inhabitants. Besides these there are some Jews and Turks; the latter constitute the ruling people.

RELIGION.

11. Mohammedanism is the prevailing religion. In the south, however, it has become sadly corrupted by the intermixture of pagan rites. There are also many Christians in Lower Egypt.

EDUCATION.

12. The bulk of the people are in a degraded condition. There are a few schools. Egypt, once the cradle of the arts and sciences, and renowned in ancient history, is now chiefly celebrated for its wonderful ruins.

ANTIQUITIES.

13. The splendid remains of antiquity in Egypt attest its former grandeur.

The Pyramids, of which there are near a hundred, are the most stupendous works of man. The largest, at Ghizeh, near the Nile, covers eleven acres of ground, and is about five hundred feet high. Besides these, in various places there are majestic images, statues, and obelisks, with the colossal ruins of temples and cities, which excite the wonder and admiration of the beholder.

CITIES.

14. Cairo and Alexandria have been noticed. The latter quite recently (1882) was bombarded and burnt to the ground by the English. Rosetta is finely built and is a favorite place for summer visitors. Here, in 1799, was found the famous "Rosetta Stone," which gave the key to Egyptian hieroglyphics. Damietta, Suez, Port Said are other important towns.

HISTORY.

The history of Egypt goes back to the early ages of the world. The earliest dynasty of which we have any account, goes back to 4004 B. C. It is also supposed to have been settled by the descendants of Ham, led by Mizraim, sometimes called Menes, 2188 B. C. Owing to the fertility of the soil, the inhabitants rapidly increased. Even in the time of Abraham, Egypt had become noted for its wealth and splendor. In the time of Moses, about 1520 B. C., it had become the most learned and civilized portion of the globe, and continued so for many centuries afterward. It was conquered by the Persians in the year 529, B. C.; by Alexander, in 332; and by the Romans, 30 B. C. The last of a long line of sovereigns, called Ptolemies, was Cleopatra, renowned alike for her beauty, her splendid court, and the romantic incidents of her life. Egypt passed under the yoke of the Byzantine empire, and was wrested from them by the Saracens 640 A. D. The Turks conquered it in 1517; the French in 1799; in 1839 it became a fief of the Ottoman Empire.

CHAPTER XLVII.

OCEANICA.

MAP EXERCISES.

Locate the following:

ISLANDS.

New Guinea, Sumatra, Java, Celebes, Borneo, New Zealand, North, South, Tasmania, Banda, Philippine, Caroline, Pelew, Gilbert, Ellice,

Solomons, Ralick, Radack, Feejee, Loyalty, New Caledonia, Cooks, Society, Sandwich, Hawaii, Maui, Oahu, Kauai, Sumbawa, Timor, Sula, Palawan, Mindanao, Gilolo, New Britannia, Louisiade, New Hebrides, Great Barrier Reefs, King, Sta Cruz, Marquesas, Nassau.

STRAITS AND CHANNELS.

Bass, Malacca, Sunda, Karimata, Macassar, Torres, Cook, Molucca, Passage, Foveaux.

CAPES:

York, South, Wilson, Sandy, Howe, Spencer, Catastrophe, Leuwin, Naturaliste, North-west, Flattery, North, East.

GULFS AND BAYS.

Carpentaria, Australian, Spencer, Encounter, York, Halifax, Tolo, Boni.

MOUNTAIN RANGES.

Liverpool, New England, Australian Alps, Blue, Ashburton, McDonnell, Gawler, Peterman, Snowy.

MOUNTAIN PEAKS.

Hotham, Lomond, Augustus, Bruce, Mann, Sea View, Cook, Franklin, Simpson, Owen Stanley, Tomboro, Ophir, Mauna Loa, Mauna Kea, Egmont.

LAKES.

Moore, Lefroy, Gairdner, Torrens, Gregory, Frome, Eyre, Amadeus, Salt Lake, Tawpo, Barlee.

RIVERS.

Murray, Darling, Lachlan, Victoria, Murrumbidgee, Cooper, Ashburton.

SEAS.

Sulu, Arafura, Celebes, Java, South China, Banda, Yellow.

RELATIVE POSITION.

In what direction is Tasmania from New Zealand? from Perth? from Feejee Islands? from Shark's Bay? from Tomboro? from Batavia? from Sidney?

TRAVELS.

Trace a water route from Adelaide to Singapore; to Sidney; to Wellington; to Sarawak. From Melbourne to Calcutta; to Bushire;

to Monrovia; to Copenhagen; to Olympia; to Sebastopol; to Kansas City.

MISCELLANEOUS.

Between what parallels does Australia lie? between what meridians? What islands and what waters are crossed by the equator? by 10° south? by 10° north? What meridian passes through Bass Strait? What parallel? What islands are crossed by the 120° east longitude? What season now in New Zealand? in Australia? in Banca? What time is it at Sidney when it is noon in Columbus? What is the time at Singapore when it is 3 P. M. at Paris? What is the difference of time between Sidney and Wellington? Between Sidney and Perth? Between Hobart Town and Bombay? Between Adelaide and San Francisco? When it is 10 o'clock Sunday at San Francisco what is the time at Sidney? What is the length of the longest day at Hobart Town? at Perth? at Cape York? What is the distance in statute miles from Sidney to Perth? to Wellington? to Hobart Town? to Cape York? What from the Sandwich Islands to San Francisco? to Sidney? to Hong Kong? to Yeddo? Where does the clock show the same hour as at Melbourne?

DESCRIPTION.

POSITION.

1. Oceanica includes the islands of the Pacific ocean. It extends from 50° south to 40° north, and from 108° west to 95° east.

DIVISIONS AND EXTENT.

2. Oceanica is divided by geographers into three divisions.

(1) Malaysia, so called from being inhabited chiefly by the Malays, includes the islands Sumatra, Borneo, Java, (known as the Sunda islands,) and Philippine and Spice (known as the Spice islands). Area, 760,000 square miles.

(2) Australasia, so called from lying south-east of Asia, includes New Guinea or Papua, New Zealand, Tasmania, and numerous groups of islands as well as the continent of Australia.

(3) Polynesia, signifying many islands, embraces the rest of Oceanica, and consists of numerous island groups. Area, 150,000 square miles. The north-western part of Polynesia, lying between 130° east longitude and 180° , and north of the equator, is called Micronesia ("little islands"). Area of Oceanica, 4,500,000 square miles.

"Melanesia includes the largest islands, New Guinea, Admiralty, New Britain, Solomon, New Hebrides, Santa Cruz, New Caledonia, Loyalty, and the Feejee islands."

The following table gives the principal islands, together with areas, populations, etc,

Names of Islands.	Length. Miles.	Breadth. Miles.	Area. Sq. Miles.	Population.
Borneo	850	680	284,000	2,500,000
Java	630	35 to 120	50,000	18,335,000
Sumatra	1,025	60 to 140	177,000	3,000,000
Celebes	700	60 to 300	70,000	2,000,000
*Philippine			117,000	7,450,000
Luzon	560	130	58,000	4,450,000
Mindanao	300	30 to 275	36,000	733,000
Palawan	260	30	7,500	
Banca	108	64	4,300	54,000
Timor	300	60	16,000	100,000
Floris	120	35	3,600	
Spice			43,000	322,000
New Guinea	1,600	30 to 400	275,000	
Tasmania	200	200	26,000	104,000
New Zealand			106,000	350,000
New Caledonia	220	30	5,000	58,000
†Feejee			8,000	118,000
‡Sandwich			7,630	57,000
Australia	2,500	1,950	2,983,000	2,250,000
Queensland			678,000	1164,000
New South Wales			325,000	1584,000
Victoria			88,000	1824,000
South Australia			914,000	1213,000
West Australia			978,000	126,000

*1,200 in all, and 480 inhabited.
†225 islands; 80 inhabited.

‡15 islands; 8 inhabited.
|Census of 1871.

COAST.

3. Australia, like all southern continents, has a regular coast line with few deep indentations. There are 8,000 miles of sea-coast. Many other islands are deeply indented and contain some valuable harbors. New Zealand has 3,000 miles of coast.

CAPES.

4. *Cape York* extends from York peninsula into Torres strait. *Cape Howe* projects from the south-east of Australia; etc.

GULFS AND BAYS.

5. The principal gulfs and bays are *Carpentaria*, on the north of Australia, tributary to the Arafura sea; *Encounter* bay, on the south, and tributary to the Australian Bight, etc.

SEAS.

6. Several seas exist among the north-western islands, viz.: the *Arafura*, north-west of Australia, *Java* sea, north of Java and south of Borneo. Other seas are *Sula*, *Celebes*, *Banda*, etc.

CHANNELS, STRAITS, ETC.

7. *Bass* strait separates Australia from Tasmania, and connects the Pacific with the Indian ocean. The *Torres* strait separates Australia from New Guinea, etc.

Names of Straits.	Width. Miles.	Length. Miles.
Bass	150	260
*Torres	80	
Sunda	70	100
†Malacca	55 to 200	520
Macassar	70 to 240	350

*Torres discovered it in 1606.

†Dangerous.

ISLANDS.

8. The principal islands have been given. (Let the pupil locate as many as he is able from memory.)

PENINSULAS.

9. There are a number of peninsulas on several islands, but the names are not generally known. *York* peninsula is the most important peninsula of Australia; it projects from the north-eastern part, and is about 500 miles long. The soil is poor.

GENERAL CHARACTERISTICS OF THE SURFACE.

10. Australia resembles Africa in its surface; mountains extend along the coast forming as it were a huge trough in the interior. There is some low marshy land along the coast in a few places. The interior has been but partially explored, and is said to be an immense plain almost altogether sterile.

Tasmania, New Zealand, and the Sunda islands have a rough, mountainous surface; however, South island contains some broad fertile plains along the east.

The Sandwich and many other islands present an exceedingly rough exterior. Many of the islands of the Pacific are volcanic, and send forth terrific volumes of lava, smoke, and ashes. Many are evidently built up by myriads of coral lines, which are sea-animals so small as to be scarcely observed by the naked eye. These animals are found only in tropical waters where the temperature is not less than 68° Fahr.; they cannot exist at a greater depth than 120 feet, nor above water, although many of the islands are several thousand feet high from their base.

The coral island is an aggregate of stony cells composed of carbonate of lime, and these cells are the skeletons of the coral animal. The coral animal builds perpendicularly at a rate of about one inch in a century.

The bed of the ocean sank about as rapidly as the coral built upward, and

thus, in course of time, these coral islands became very high. When they reached the surface, the coral died, and the tops of the islands were disintegrated by the action of the waves, a soil was formed, winds and currents brought seeds, animals, and even man himself, and in this way became the abode of human beings.

MOUNTAIN RANGES.

11. The *Snowy* range trends through the island of New Guinea, and is considered very high.

The ranges of Australia are not very high; those in the south-east are the highest; the principal are the *Liverpool*, *New England*, and *Australian Alps*. They are nearly as high as the Apalachian.

MOUNTAIN PEAKS.

12. *Mt. Hotham*, the highest peak of Australia, is in the south-eastern part. There are no volcanoes in Australia, but on the islands they are numerous.

Tomboro, on the island of Sumbawa, is, next to Cotopaxi, the most terrific volcano on the globe.

During the fearful eruption of 1815 ashes fell in such enormous quantities at a distance of forty miles that houses were crushed beneath the weight; at a distance of 240 miles the ashes covered the ground one and a half inches; and at a distance of 800 miles the sea was so covered that a crust was formed upon it.

The volcanoes of *Mauna Loa* and *Kilauea*, in Hawaii, are notable examples of volcanic activity. Their craters are the largest in the world, and occasionally streams of melted lava escape from them and roll to the sea like rivers of fire, leveling forests and everything that comes in their way.

The most remarkable instance of this kind took place in 1840, when a stream of lava from one to four miles wide plunged into the sea for three weeks; during which time, at a distance of forty miles fine print could be read at midnight by its light.

Mountain Peaks.	Height.	Mountain Peaks.	Height.
Tomboro	9,000 feet.	Hook	13,200 feet.
Hotham	7,500 "	Franklin	10,000 "
Ben Lomond	5,000 "	Tongariro	6,500 "
Mauna Loa	13,760 "	Egmont	8,270 "
Mauna Kea	13,950 "	Edgecomb	2,500 "
Ophir	13,800 "	Owen-Stanley	13,000 "

Ophir, an isolated peak, 5,690 feet high, and forty-five miles E. N. E. of Malacca, is rich in gold at its base, and some have thought that Solomon obtained the "Gold of Ophir" for the temple, at this place.

PLAINS.

13. The greater portion of Australia is a plain. In the interior is a desert tract called "Stony Desert." A belt of land from forty to 300 miles wide lies between the mountains of Australia and the sea. The widest place is in the south-east.

OBJECTS OF INTEREST.

14. Java is a land of wonders. The "Poison Valley," about one-half mile around, is held in horror by the natives.

Every living thing that enters it drops dead, and the bottom is covered with the skeletons of dogs, deer, birds, and even men, who have incautiously entered it. It is filled with carbonic acid gas.

There is another crater in which tigers and other animals have been killed by the sulphurous exhalations.

At the east end of the island there is in the crater of a volcano a small lake so strongly impregnated with sulphuric acid that fish cannot live near its mouth where it empties into the sea. Besides these, numerous Hindoo monuments of antiquity are found.

Java contains forty-five volcanoes, and for this reason has been denominated the "Land of Fire."

Sumatra is regarded interesting because of its numerous volcanoes; more than fifty active volcanoes are found here.

Australia is remarkable in its animal and vegetable life.

So strange is it in this respect that it has been called "The Land of Inverted Orders." We find here the most beautiful birds, but they do not sing; birds without feathers, an animal with the bill of a duck and the body of an otter, called the ornithorhynchus; flowers of exquisite colors, but with no fragrance, while the leaves of many trees are highly aromatic; pears with the stem on the large end; cherries with the stone on the outside; trees that shed their bark instead of their leaves, and whose leaves give no shade and do not vary in color with the seasons; bees that do not sting; black swans and white eagles.

Some of the islands abound in fine mountain scenery. New Zealand is especially characterized in this respect; because of its varied scenery and numerous natural curiosities it has received the name "Southern Wonder World." In the island of New Guinea we find the bird of paradise, the lyre bird, perhaps the most beautiful birds that are known.

The island of Bali, just east of Java, is known as the "Garden of the Eastern Seas."

LAKES.

15. There are no lakes worthy of mention, except those of Australia; and they are shallow and mostly small in size, though in some places numerous. Many of them dry up entirely during the dry season. *Lake Torrens*, the largest, is 150 miles long, thirty wide, and has an area of 4,000 square miles.

RIVERS.

16. The rivers of Australia, like those of Africa, are broad and shallow. Many of them lose themselves in the sand.

The *Murray* is the largest; it is 1,600 miles long, and drains a basin of 500,000 square miles. It is navigable during the greater part of the year, and for the greater part of its course.

The *Darling*, 1,160 miles long, is its principal tributary. It is also navigable for small vessels.

Murrumbidgee is 1,350 miles long, and is navigable nearly to its source.

The rivers of the islands are unimportant. There are several rivers which empty into the gulf of Carpentaria that are navigable for short distances.

SOIL.

17. In most of the islands the soil is very fertile, except in the mountainous parts.

A narrow belt of Australia along the coast, about forty miles wide at the north, and increasing in width to 300 miles in the south-east, is extremely fertile, but on the whole better adapted to grazing than to tilling.

The interior is sandy and sterile.

Victoria seems to be the most productive province of all the continent.

"The plough might be driven," says Sydney, for one hundred miles in a straight line, turning up a rich mold along the whole tract."

Vast tracts of well-watered land are covered with heavy timber.

"Pasture lands extend for hundreds of miles—now ascending the mountain slopes to their very summits; here spreading out into vast plains, and there undulating gently, or running over rough hills, or broken with rocky ranges, and ending in deep gullies, sandy and stony deserts, or marshes."

CLIMATE.

18. Java and some of the other islands are unhealthy along the coast, but pleasant and healthful in the interior.

The East Indies are frequently visited by severe storms.

The climate of Australia is singular; the country is subject to long seasons of drought lasting for several months or as many years. There are no high mountains in the interior to condense the vapors, and the mountains along the coast drain the air of much of its moisture. Besides, the situation of the continent is within a belt over which the great trade currents are advancing from colder to warmer regions, thus taking up moisture rather than parting with it. The winds do not as a rule blow across the continent but along the shore; hence the interior is dry.

Rains often come with great suddenness and with such violence that the river valleys are soon filled to overflowing, and dry basins converted into lakes. Little lasting benefit results from these rains, as the water disappears so rapidly that the ground is dry almost as soon as it has ceased to rain.

Dense clouds of dust from the interior occur frequently, but do no particular damage. The climate of Australia is remarkably free from epidemic diseases, and people generally live to a great age.

The temperature is subject to changes, sudden and great, to an extraordinary degree.

Sometimes a variation of 99° occurs in twelve hours, and from 20° to 30° in half an hour. During the day the heat is often excessive, the thermometer sometimes indicating a temperature of 120° or more.

The rainy season occurs in the south from March till September; in the north, from November till April.

VEGETATION.

19. In vegetation Australia is as singular as in other respects; very few varieties of trees and plants are native.

The Eucalyptus has some 400 varieties, and is regarded as very valuable for its wood. One variety is believed to be the largest tree in the world.

The eucalyptus trees have the power of absorbing malarial poisons from the atmosphere, and are planted in other countries in low, marshy grounds to purify the air. Many parts of Italy, formerly uninhabited because of the malarial poison arising from the soil, have been made quite healthy by these trees.

There are no native fruits except a few small and almost worthless berries.

All the grains and fruits which have been introduced do well. Wheat, corn, barley, cotton, sugar cane, oranges, lemons, etc., are cultivated with perfect success.

The East Indies produce nutmegs, cloves, pepper, cinnamon, and other spices, besides coffee, and all the various tropical fruits.

MINERALS.

20. Australia ranks high in the production of gold; Victoria and New South Wales are richest in this metal.

Copper is found in Victoria and south Australia.

Good iron ore and excellent coal are abundant in the eastern part.

Tin exists in large quantities in the island of Banca as well as in eastern Australia.

Lead, silver, and precious stones are found at various points.

MANUFACTURES.

21. The manufactures of this portion of the world are yet very limited. A few establishments have recently been erected for the manufacture of cotton and woolen goods.

It is the policy of the British government to make Australia a country producing raw material, and in turn to supply it with her manufactures.

The islands are inhabited chiefly by barbarous or half-civilized races and their manufactures are not important.

PRODUCTIONS OF THE ISLANDS.

We will give here the principal productions of the largest islands:

Borneo: diamonds, mercury, salt, petroleum, tin, copper, iron, nutmegs, cinnamon, cloves, rattans, Java coffee, indigo, pepper, cotton, rice, cochineal, and tea.

Sumatra: granite, marble, porphyry, sulphur, petroleum, gold, copper, lignite, saltpetre, and tin.

Tasmania: coal exists in nearly all parts, gold, lead, copper, iron, and precious stones, in some places.

New Guinea: pearls, gold, fine woods, rosin, bamboos.

New Zealand: coal, copper, cattle, sheep, swine, horses.

New Caledonia: great mineral wealth.

Sandwich: bread-fruit, sugar cane, sandal-wood, arum, and tropical fruits.

Feejee: tropical fruits, tobacco, cotton, and mother-of-pearl.

COMMERCE.

22. The commerce of the East Indies is important. Coffee, tropical fruits, spices, gold, tin, drugs, and fine woods are exported. Gold is the most important article of export from Australia, and next to gold the most valuable is wool; wheat and coffee are exported from south Australia.

The imports are cottons, woollens, hardware, locomotives, cars, rail-road iron, agricultural implements.

In all the islands and Australia the commerce is carried on chiefly by foreigners. The commerce of the United States with these islands is rapidly growing in importance. The exports of Australia are \$125,000,000 annually and the imports are \$120,000,000.

NATURAL ADVANTAGES.

23. Let the pupil give the natural advantages according to the preceding models.

INTERNAL IMPROVEMENTS.

24. Telegraph lines connect all important places on the islands, and by the submarine cables Australia and the principal islands have communication with all parts of the world.

Railroads are being built so rapidly that Australia has already about 7,000 miles completed. The larger islands have railways penetrating their interior and crossing them from one side to the other. They are built chiefly by foreign capitalists. In the civilized portions the people live in good, substantial houses, but on many of the islands the people build their houses on stilts or posts.

But few good wagon roads and bridges exist.

Nowhere in the world except in our own United States has there been such rapid growth of cities as in Australia. People from all parts of the world have been drawn hither by the reports of the vast gold fields, and her cities and country have developed as if by magic.

ANIMALS.

25. The native animals of Australia are but few; the chief are the wild dog, the only carnivora, the kangaroo, about twenty varieties of bats, monkeys, and ants of all sizes; some of the latter are an inch long, and live in immense hillocks; their bite is very painful. The most beautiful birds are found on some of the islands, especially on New Guinea.

In Malaysia there are many small animals and insects whose bite is very poisonous.

The domestic animals are buffaloes, small horses, hogs and goats. The elephant, tiger, leopard, rhinoceros, hippopotamus, and crocodile are common.

INHABITANTS.

26. The great majority of the inhabitants of Australia are emigrants from Great Britain.

The native population numbering about 50,000 are a very degraded race; they are black, with curly hair, but not the crisp wool of the negro, and their lips less protruding. They go entirely naked for the most part, and live mainly by hunting and fishing, but eat worms, insects, and other repulsive things.

The whites are held by them in great reverence, as they believe them the reanimated souls of the blacks. They build fire by rubbing two sticks together, but they frequently eat their meat raw.

In the mode of cooking they dig a hole in the ground, light a fire in it, place in the slain animal and cover with earth; when the fire has gone out the animal is regarded sufficiently cooked.

They throw the boomerang with great skill; it is an instrument shaped like a double-edged sword bent to the form of an ellipse; on being thrown into the air it strikes the ground and rebounds toward the thrower. They bury their dead in the exact spot where they die, and that place is never inhabited by them again. The inhabitants of Polynesia belong to this race.

The Malays inhabit Malaysia; there were formerly many cannibals and pirates among them, but through the labor of missionaries their condition has been much ameliorated.

POPULATION.

27. Oceanica, 29,102,000; Australasia, 4,600,000; Polynesia, 454,000; Malaysia, 24,048,000; Australia, 2,250,000.

OCCUPATION OF THE INHABITANTS.

28. The people of Australia are engaged chiefly in mining and farming; the raising of sheep and cattle has become an important occupation among the colonists. From its two leading occupations, gold-mining and sheep raising, Australia has been designated the "Land of Wool and Gold." The same occupations prevail in New Zealand. Agriculture in some form is carried on in nearly all the habitable islands.

The inhabitants of Java are engaged to a considerable extent in manufacturing and trading; in the latter occupation they manifest great shrewdness. Hunting and fishing are the chief employments of the savage tribes.

LANGUAGE.

29. The English language is spoken mainly in the British colonies. A great variety of languages and dialects are spoken among the Malays and barbarous tribes.

GOVERNMENT.

30. The government of Australia is colonial and is controlled by the British. The governor of each colony is appointed in England; a legislative council and a legislative assembly are chosen by universal suffrage.

Nearly all the islands are subject to foreign powers and consequently regulated by these powers. The following topic will exhibit the government more clearly.

FOREIGN POSSESSIONS.

31. The British possessions are Australia, Tasmania, New Zealand, Feejee isles, the eastern half of New Guinea, and north-western Borneo.

New Caledonia belongs to France; also Marquesas and the Society islands.

The Caroline, Ladrone, Philippine islands belong to Spain.

The eastern part of Sumatra from north to south, Java, Celebes, Banca, Spice islands, the southern and eastern parts of Borneo, and the western half of New Guinea belong to the Dutch.

EDUCATION.

32. The inhabitants of the Polynesian islands are generally savages; of this group the Sandwich are the most important.

The people of this island group have lately been civilized, and schools are now generally established. At Honolulu, their capital, nearly all ships sailing between America and the countries across the Pacific, stop; and for this reason these islands have made rapid strides in European and American culture.

Education has not made much progress in Malaysia; the people are generally illiterate. The cause of general education has made great progress in Australia; the different colonial governments aid in the establishment of schools. Sidney and Melbourne have universities.

RELIGION.

33. The great majority of the inhabitants are pagans. The Europeans have carried their religion with them wherever they have made settlements. There are many Roman Catholics in Australia, and some

Mohammedans, and Jews; but the bulk of the population are the various branches of the Protestant faith. Tahiti, one of the Feejee islands, was the first christianized of the South Sea islands, and bears the name "Queen of the Pacific."

CITIES.

Batavia is the commercial emporium of the Malay islands; it is a very filthy and unhealthy city. The Dutch have introduced many improvements.

Sarawak, on the western coast of Borneo, carries on considerable trade, chiefly with Singapore.

Hobart Town has a fine harbor, and a number of good public buildings.

Sidney, the oldest city of Australia, being founded in 1788, lies on a beautiful and commodious harbor; it is a handsome city, and has great educational advantages—three colleges and an university.

Melbourne is the chief commercial city of Australia.

Adelaide, the capital of South Australia, has numerous public buildings.

Names of Cities.	Population.	Names of Cities.	Population.
Batavia	100,000	Melbourne	282,000
Sarawak	18,000	Adelaide	38,000
Hobart Town	19,000	Perth	5,000
Sydney	224,000	Wellington	21,000
Auckland	29,000	Ballarat	37,000

HISTORY.

35. The ancients had some faint notion of the existence of islands beyond the region which they denominated Farther India; but we have no account of any voyage made in this quarter till the middle of the ninth century, when the Arab navigators, in their intercourse with China, visited some of the islands of the Indian Archipelago. Of these voyages we have no particular narrative.

The islands appear to have had a native population at the earliest period, and settlements were made among them by the Malay adventurers at different times. Marco Polo, a Venetian, who traveled to China through Tartary, toward the end of the thirteenth century, returned to Europe by way of the China sea and Indian ocean. He describes two islands, which he calls Great and Little Java; these seem to be Borneo and Sumatra.

The Portuguese were the first Europeans who began the career of maritime discovery in the east. They arrived in India by the route of the Cape of Good Hope in 1498. By the year 1510 they had visited all the islands of the Malay Archipelago, as far as the Moluccas. The Spanish, in the meantime, under Columbus and his successors, were pushing their discoveries and conquests in the west, Balboa having discovered the Pacific in 1513, as elsewhere stated.

Australia was discovered by the Dutch in 1605 and named by them New Holland. The first settlement was made in 1788, after a formal possession had been taken by Cook, in the name of the English. This continent was first used as a place of banishment for English convicts, and in 1835 its name was changed to its present name. In the year 1851 gold was discovered, and since this period the development of Australia has been rapid. Large areas of the interior are still unexplored, and of the interior of New Guinea, we, in reality, know nothing.

NAMES OF COUNTRIES.

Europe signifies a country of white complexion ; so named because the inhabitants were of lighter complexion than those of Asia and Africa.

Asia signifies between, or in the middle, from the fact that geographers place it in their books between Europe and Africa.

Africa signifies the land of corn or ears. It was celebrated for its abundance of corn and all sorts of grain.

Siberia signifies thirsty or dry—very characteristic.

Spain, a country of rabbits or conies. It was once so infested with these animals that it sued Augustus for an army to destroy them.

Italy, a country of pitch, from its yielding great quantities of black pitch. Calabria, also, for the same reason.

Gaul, modern France, signifies yellow haired, as yellow hair characterized its inhabitants.

Hibernia is the utmost, a last habitation, for beyond this the Phenicians never extended their voyages.

Britain, the country of tin, great quantities being found on it and adjacent islands. The Greeks called it Albion, which signifies, in the Phenician tongue, either white or high mountains, from the whiteness of its shores or the high rocks on the western coast.

Corsica signifies a woody place.

Sardinia signifies the footsteps of men, which it resembles.

Syracuse, bad favor, so called from the unwholesome marsh on which it stands.

Rhodes, serpents or dragons, which it produced in abundance.

Sicily, the country of grapes.

Scylla, the whirlpool of destruction.

Etna signifies a furnace, or dark and smoky.

NICKNAMES OF STATES.

Arizona is called the "Land of the Aztecs."

Arkansas is called the "Bear State," and its inhabitants are "Tooth-picks" or "Gophers."

Alabama people are called "Lizards," from the great prevalence of this reptile.

California is, on account of its mineral wealth, the "Golden State," and its citizens "Gold Hunters." It is also called "The American France."

Colorado people, from their migratory habits as miners, are called "Rovers." The state is known as the "Sanitarium" and the "Mint;" also known as "The Centennial State," and "Mother of Rivers."

Connecticut is the "Nutmeg State." It is also called "Freestone State," and "the Land of Steady Habits." The natives are designated "Wooden Nutmegs."

Delaware is the "Blue Hen" or "Diamond State;" its inhabitants are called "Muskkrats."

Florida is the "Peninsula State," and the people who live in it are called "Fly-up-the-Creeks."

Georgians are nicknamed "Buzzards." The state is known as the "Empire State of the South."

Idaho is the "Gem of the Mountains."

Illinois has three names, "Garden of the West," "Sucker State," and "Prairie State." Its people are called "Suckers."

Indiana is called the "Hoosier State," inhabited by "Hoosiers."

Iowa is the "Hawkeye State," and "Hawkeyes" dwell therein.

Kansas is another "Garden of the West," "The Granary of the World," but its inhabitants are called "Jay-hawkers."

Kentucky, in words suggestive of strife in by-gone days, is the "Dark and Bloody Ground;" but the irrepressible fondness for fun having afterward cropped up, it became known as the "Corn Cracker State;" its people are "Corn Crackers."

Louisiana is called the "Creole," and is inhabited by "Creoles," or "Cree-owls."

Maine is the "Lumber," or "Pine Tree State," and they who live there are termed "Foxes."

Massachusetts is the "Bay State," and its people "Bay Staters."

Michigan is the "Lake State," or "Wolverine State." Its inhabitants are "Wolverines" or "Michiganders."

Mississippi is the "Bayou State," and its residents are recognized as "Tadpoles."

Marylanders are called "Craw-thumpers"

Minnesota residents are designated "Gophers."

Missourians have been stigmatized as "Pukes." The state is known as the "Iron State."

Nebraska settlers are styled "Bugeaters." It is the "Black Water State."

Nevada, it is said, on account of wild sage bushes and wilder hens that cluster in them, has now for its occupants the name of "Sage Hens."

New Jersey is called the "Garden State," and its people the "Blues," or "Clam-Catchers."

New Hampshire is the "Granite State;" the natives thereof are "Granite Boys."

New Mexico has recently become known as "The Old Curiosity Shop of America."

New York is the "Empire State," and the "Excelsior State." The natives are termed "Knickerbockers."

North Carolina is the "Old North State," or the "Turpentine State;" its natives are known as "Tuckoes" or "Tarboilers."

Ohio is the "Buckeye State," and the people are termed "Buckeyes."

Oregon people are designated "Web-feet."

Pennsylvania is honorably designated the "Key-stone State." Its inhabitants go by the name "Penamites," or "Leatherheads."

Rhode Island is called "Little Rhody." The term "Gunflints" is applied to the natives.

Tennessee is the "Big Bend State," and is the home of "Whelps" or "Cotton manies."

Texas is poetically termed the "Lone Star State," also the "Long Horn Empire." It is tenanted by "Bull-heads."

Vermont, as its name implies, is the "Green Mountain State," and the "Green Mountain Boys" is a name given to its natives.

Virginia is the "Old Dominion," the "Mother of States," and also the "Mother of Presidents." "Beadles" or "Beagles" is the characteristic title given to the natives.

Wisconsin is the "Badger State" and is the home of the "Badgers."

South Carolina is the "Palmetto State," and its natives are "Weasels."

The National Park has become "The Northern Wonder Land."

The entire continent itself is "Old Stars and Stripes," "Uncle Sam," the "New World," or "Columbia."

POPULAR NAMES OF OTHER PLACES.

Old Mexico is the "Coming Country."

Iceland, the "Land of Frost and Flame," so called because of its icy climate and numerous volcanoes.

"The Ringing Island," a name given to England on account of the music of its many bells.

"Belle France," a popular name applied to France, like "Merry England."

"Northern Bear," a popular appellation of Russia; also called the "Northern Giant," in allusion to its immense size.

"New Grenada," the name by which, for thirty years, U. S. of Columbia was formerly known. It was changed to its present name in 1861.

"Land o' Cakes," a name given to Scotland, because oat-meal cakes are a national dish, especially among the poorer classes.

"Land of Wisdom," a name given to Normandy, in France, because of the wise customs which have prevailed there, and the skill in jurisprudence.

"King of Waters," a name sometimes applied to the Amazon river,

"Key of the Gulf"—Cuba, so called from its position at the entrance to the Gulf of Mexico.

"Lion of the Sea," a name formerly given to the Cape of Good Hope.

"Lake of the Cat," a name given to Lake Erie from the time of its discovery up to the eighteenth century.

"Little England," a popular name given to the Barbadoes by the inhabitants.

"Lovers Leap," (also called Cape Ducato,) a promontory on the southern coast of Santa Maura, one of the Ionian islands. The poetess Sapho is said to have thrown herself into the sea from this point, because of the coldness with which her lover reciprocated her ardent affections.

New Zealand, "The Southern Wonder Land."

Liberia is the "White Man's Grave," so called because of the fatality of its climate to white people.

"Bridge of Sighs," a name popularly given to the passage-way connecting the palace of the Doge and the state prison; condemned prisoners were transported over this way from the hall of judgment to the place of execution.

"Cradle of Liberty," Faneuil Hall of Boston.

"Devil's Wall," a name given to the old Roman wall separating England from Scotland; because of the strength of the cement and durability of the stone, it was thought to have been built by the Devil. The peasants in the vicinity are said to be in the habit of gathering fragments from this wall to be put in the foundations of their own dwellings, supposing that this will give them durability and solidity.

"Dixie," an imaginary land somewhere in the Southern States, celebrated in a popular negro melody, as a perfect paradise of ease and enjoyment. This term is often used to designate the whole South.

"Gog and Magog," popular names for two colossal statues in the Guildhall, London. They are said to be of remarkable antiquity, and have been the pride of London from time immemorial. They are fourteen feet high.

"Lot and Lot's Wife" are two remarkable columns of basaltic rock on the island of St. Helena, 197 and 160 feet high respectively.

"Egypt," a popular designation of the southern part of Illinois; so named because the inhabitants had the general reputation of being extremely ignorant—an allusion to the days of thick darkness of Egypt in the time of Moses.

"Salt River," "an imaginary river up which defeated political parties are supposed to be sent to oblivion." (See *Webster's Unabridged Dictionary*.)

"Holy Land," a name given to Palestine, the country for a long time the home of God's chosen people.

"Holy Island," a name formerly given to Ireland on account of the great number of saints dwelling there.

The "Garden of the Gods" is a lovely valley, like a natural amphitheater, near Colorado Springs.

"Highlands of Never Sink," the first land seen by those coming into New York on ships; they are along the coast from Sandy Hook to Raritan bay.

"The Palisades" are a picturesque wall of rock about 400 feet high, just above New York, on the New Jersey bank of the Hudson river, for twenty miles.

"New France," the old name of Canada.

"Niagara of the Eastern Continent," Victoria Falls, on the Zambeze river.

"Mother of Rivers," Colorado.

"The Iron Gate" is a series of rapids and whirlpools in the narrows of the Danube, four miles below Orsova. The defile is 7,500 feet long, 650 feet wide, with a fall of sixteen feet, and a rapidity of ten feet a second.

"Mason and Dixon's Line," the southern boundary line of Pennsylvania, designed to separate this state from the slave-holding states of Maryland and Virginia. It was run by Charles Mason and Jeremiah Dixon, two English mathematicians and surveyors, in the years 1763-67. The term came into general use through Randolph, during the heated debates on excluding slavery from Missouri.

"Garden of Italy" is Sicily.

"The Boiling Mountain" is Mt. Pichincha. Its crater is 2,500 feet deep, the deepest in the world.

"Queen of the Antilles," Cuba, because of her valuable productions, fine harbors, etc.

"John O'Groat House" is the name of a site once occupied by a cottage, and is nearly the most northern point of Scotland. Ferries go between this place and the Orkney islands.

POPULAR NAMES OF CITIES.

Boston, the "Modern Athens," or the "Hub."	Cleveland, the "Forest City."
Cairo, "City of Victory."	St. Louis, the "Mound City."
Baltimore, the "Monumental City."	Hannibal, the "Bluff City."
New Orleans, the "Crescent City."	Aberdeen, the "Granite City."
Indianapolis, the "Railroad City."	Dayton, the "Gem City."
Nashville, the "City of Rocks."	Alexandria, the "Delta City."
San Francisco, the "Golden City."	Brooklyn, the "City of Churches."
Keokuk, the "Gate City."	Edinburgh, "Northern Athens."
Louisville, the "Falls City."	London, "City of Masts."
Pittsburgh, the "Smoky City."	Jerusalem, "City of Peace."
Buffalo, "Queen City of the Lakes."	Baalbec or Heliopolis, "City of the Sun."
Sodom and Gomorrah, "Cities of the Plain."	Limerick, "City of the Violated Treaty."
Rome, "Queen of Cities."	Toledo, the "Corn City."
Boston, "City of Notions."	New Haven, the "City of Elms."
Lowell, "City of Spindles."	Winnipeg, "Gate City of the North-West."
Athens, "City of the Violet Crown."	Washington, the "City of Magnificent Distances."
Philadelphia, the "Quaker City."	Xenia, the "Twine City."
New York, "Gotham," or "Empire City."	Lynchburg is the "Hill City."
Cincinnati, the "Queen City."	Havana is the "Pearl of the Antilles."
Detroit, the "City of the Straits."	

Portland, Maine, had been known as the "Forest City" until July 4th, 1866, when one-third of it was burned. The fire was occasioned by a fire-cracker carelessly thrown into a bunch of shavings in a cooper shop, by a boy.

Patterson, N. J., is sometimes called the "Lyons of America," because it has more extensive silk manufactures than any other city in the United States.

Quebec is called the "Gibraltar of America," because of its strong fortress.

"The Eternal City," a popular and very ancient title given to Rome, fabled to have been built under the direction of the gods.

"Little Paris," a popular name sometimes given to Milan, of Italy, from its resemblance in gayety to the French capital.

"The Maiden Town," a name given to Edinburgh, from a Monkish fable that it was at one time the residence of the daughters of Pictish Kings, sent there for protection in times of war.

"Nameless City," Ancient Rome; so called because it had an older and mysterious name which no one dared to pronounce, under penalty of death.

"Bride of the Sea," a popular designation of Venice, in allusion to the marriage of the Adriatic and the Doge.

"City of Homes," Philadelphia, because of the abundance of domestic comforts.

MINTS OF THE UNITED STATES.

Philadelphia, Pennsylvania; Carson City, Nevada; San Francisco, California; Denver, Colorado; and New Orleans, Louisiana.

ASSAY OFFICES.

New York City; Boise City, Idaho; Charlotte, North Carolina.

THE SEVEN WISE MEN OF GREECE.

Solon, Chilo, Pittacus, Bias, Periander, Cleobulus, and Thales.

THE SEVEN WONDERS OF THE WORLD.

1. The Pyramids of Egypt.
2. The Pharos of Alexandria.
3. The Walls and Hanging Gardens of Babylon.
4. The Temple of Diana at Ephesus.
5. The Statue of the Olympian Jupiter.
6. The Mausoleum of Artemesia.
7. The Colossus at Rhodes.

THE CENTER OF POPULATION.

"What statisticians understand by the term center of population, is the point at which equilibrium would be reached were the country taken as a plane surface without weight, but capable of sustaining weight, and the inhabitants distributed over it in number and position as they are found at the time the census is taken, each inhabitant being supposed to be of equal weight, and consequently to exert pressure on the pivotal point in direct proportion to his distance therefrom." According to this mode of computation, the center of population in 1880 was found to be at near Taylorsville, Kentucky, a little village about eight miles west by south of Cincinnati.—*New York Tribune*.

ATLANTIC CABLES (1879).

There are six Atlantic cables—two French—one from north-eastern Massachusetts, and the other from Buxbury, Massachusetts, to St. Pierre, and thence to Brest; the other four extend from St. Pierre and Newfoundland to Ireland.

"Carrying Coals to Newcastle" is a proverbial phrase, and means doing a needless thing—taking something where least of all it is needed. Newcastle is a town in north-eastern England, the center of the coal mining region, a place where coals of all things are most abundant. The phrase finds its equivalent in the French, "To carry water to the river," and the Latin, "To carry wood to the forest."

THE ATLANTIS.

According to the tradition of the ancient geographies, a large island lay in the Atlantic, west of the north-west of Africa, and was said to be very populous, comprising a race of mortals begotten by Neptune of mortal women. They made war upon the nations of Africa and Europe, but were defeated by the Athenians. The inhabitants finally became desperately wicked, and were overthrown by a deluge. The island is found on ancient maps, and several persons of note have given it endorsement.

Years ago it was discovered that a certain lake which had long been regarded as the source of the Mississippi, had no claim to this honor. When the true source was discovered, it was proposed to give it a new name. Two Latin words were suggested, "Veritas" and "caput," meaning true head. But it was thought that the name (veritas-caput) was too long, and so it was shortened by striking off the first and last syllables, and thus left "Itasca."

Gibraltar was so called in commemoration of the leader of the Saracens, Jabel Tarik, (the mountains of Tarik) who landed in Spain A. D. 710.

Cape Horn was so named by Shouten, its discoverer, in 1616, in honor of his birthplace, Hoorn, in the Netherlands.

PRONOUNCING VOCABULARY.

In this Vocabulary the characters - and ~ indicate the ordinary *long* and *short* sounds of the vowels; *ah* has the sound of *a* in *far*; *oo* as in *do*; and the hard sound of *g* is represented by *gh*; *N* has the nasal sound *ng*. The pronunciation is indicated phonetically by letters inclosed in parentheses.

While no attempt has been made to indicate the pronunciation of all words used in this work, yet it is believed that the pronunciation of all words about which there might be a doubt is here represented.

A

Aalberg (ol'berg).
Aar (ahr).
Aarhus (or'hoos).
Abyssinia (ab-is-sin'i-a).
Ab-er-deen'.
Abomey (ab-o-mă').
Acapulco (ah-kah-pool'ko).
Acarai (ăk-ă-rî').
Aconagua (a-kon-kah'gwah).
Aden (ă'den or ah'den).
Adige (ad'e-je; It. ah'de-jă).
Ad-i-ron-dack.
Ad-ri-an-o'ple.
Ad-ri-at'ic.
Aegean (ē-jē'an).
Afghanistan (af-ghan-is-tahn').
Agin-court (a'zhaN'koor').
Aguas Calientes (ah'gwas cahl-e-ēn'tis).
Agulhas (ah-gool'yas).
Aix-la-Chapelle (ăks-lah-shă-pel').
Ajaccio (ah-yah'tcho).
Alabama (al-a-bah'ma).
Albans (awl'bans).
Al-be-marle'.
Aleutian (al-oo'she-an).
Albuquerque (ahl-bu-ker'kă).
Alderney (awl'der-ney).
A-lep'po.
Algiers (al-jēr-z).
Al-i-can'te.
Al-le-gha-ny.
Allahabad (ahl-lah-hah-bahd').
Almaden (ahl-mah-den').
Alsace (ahl-sah'es').
Altai (ahl-ti').
Altamaha (al-ta-mă-haw').
Amherst (am'erst).
Am'a-son.
Amoo (ah-moo').
Amoor (ah-moor').

Amoy (ah'moy).
Anadyr (an-a-dēr').
Anam (ă-nam' or a-nahm').
An-da-man'.
An'des (an'dēz).
An-dor'ra.
An'do-ver.
An-dros-cog'gin.
Angara (an-gah-rah').
Anglesey (ang'gi-se).
An-gō'ra.
An-na-p'o-lis.
An-ti-cos'ti.
Antietam (an-tē'tam).
Antigua (an-tē'gwah).
Antioch (an'te-ok).
An-ti'les (or on-tēl').
Apache (ah-pah'-chay).
Ap-pa-lach'ee.
Ap-pa-la-chi-co'la.
Ap-po-mat'tox.
Ap'en-nines.
Ar'ab.
Araguay (ah-rah,gwl').
Ar'a-rat.
Ar-au-ca'nia (-cah-).
Archangel (ark-ăn'jel).
Archipelago (ark i-pel'a-go).
Ardennes (ar-dēn').
Arequipa (ar-e-kē'pah).
Argentine (ar-jen-tēn).
Argyle (ar-ghil').
Arica (ah-rē'cah).
Arkansas (ahr-kan-saw').
Ar-me-ni-a.
Artols (ahr-twah').
Ash-an'tee.
Ash-ta-bu'la.
As'sam (or as-sam').
Assiniboine (as-sin'-e-boyn).
As-sump'tion.
Asuncion (a-soon-the-ōn').
As-tra-khan'.
Atacama (ah-tah-kah'mah).
Atchafalaya (ach-a-fa-lī'a).
Ath-a-bas'ca.

Augustine (aw'-gus-tēn).
Auvergne (o-vairn').
Avignon (ah-vēn-yonN').
Ava (ah'vah).
Az'ov (az'of).
Azores (a-zōrz').

B

Bab-el-Man'deb.
Baden (bah'den or bad'en).
Ba-hă'ma (or ba-hah'ma).
Bahia (bah-ē'ah).
Bahrein (bah-rân').
Baikal (bi'kahl).
Baireuth (bi'ruth).
Balize (ba-leez').
Balkan (bahl-kahn').
Balmoral (bal-mor'al).
Baltic (bawl'tic).
Bang-kok' or Ban-kok'.
Barataria (bah-ra-tah'ri-a).
Bar-bă'does (-dōz).
Barcelona (băr-se-lō'nah).
Basle (bahl).
Baton Rouge (bat'un roozh).
Bayonne (bah-yon').
Beaufort (bō-furt) Br. Dom.
Beaufort (bū-furt) S. C.
Bedouin (bed'oo-ēn).
Behring (bē'ring).
Beled-el-jerid (bel'ed-el-jer-ēed').
Belem (be-lem' or bā-leN').
Bel-leisle (bel-lē').
Bel-oo chis-tan'.
Bel-grade'.
Benares (ben-ah'rez).
Bengal (ben-gawl').
Benguela (ben-gă'lah).
Benin (ben-ēn').
Bergen (ber'ghen).
Berlin or Ber-lin'.
Ber-mu'das.
Berne (bern).
Ber-nard'.

Berwick (ber'rik).
 Besancon (bâ-zôN'soN').
 Bexar (bâ-har').
 Beyrout (bâ'root').
 Bhotan (bo-tahn').
 Biafra (bâ-af'rah).
 Bingen (bing'en).
 Binghamton (bing'am-ton).
 Bogota (bo-go-tah').
 Boise (bwah-zay').
 Bokhara (bo-kah'rah).
 Bo-liv'i-a.
 Bologna (bo-lôn'ya).
 Bonifacio (bon-e-fah'cho).
 Bonin (bo-nên').
 Bordeaux (bor-do').
 Bor'ne-o.
 Bos'po-rus.
 Boulogne (boo-lôn').
 Bourbon (boor'bon).
 Brah-ma-poo'tra.
 Brazil (brah-zil').
 Brazos (brah-zôs).
 Brem'en (in U. S. Brê'men).
 Bres'lau (law or low).
 Brescia (bresh'e-a).
 Brisbane (bris'bane).
 Bruges (bru'jiz).
 Bu'da.
 Buenos Ayres (bway'nos
 i'res).
 Bucharest (bû'ka-rest').
 Bur'mah.
 Bushire (boo-shêr').

C.

Cabool (kah-bool').
 Caernarvon (ker-nar'von).
 Cagliari (cal'yah-re).
 Cairo (ki'ro; in U. S. kâ'ro).
 Calais (kal'is; Fr. pron.
 cal-ay').
 Calcasieu (kal'ka-shoo).
 Caldera (kal-dâ'rah).
 Caliente (cal-e-en'tâ).
 Callao (kal-lah'ô, or kal-
 yah'ô).
 Campagna (cam-pan'yah).
 Can'a-da.
 Canandaigua (can-an-dâ-
 gwa).
 Canary (can-al'ry).
 Can-dâ-har'.
 Can-nav'er-al.
 Cañon (kan'yun).
 Can-ton' (in U. S. can'ton).
 Cape Bre'ton (or brit'tn).
 Caracas (cah-rah'cas).
 Car'ib-be'an.
 Carlsruhe (carls'roo).
 Cartagena (car-la-jê'na).
 Cassiquiare (cah-se-kê-ah'-
 râ).
 Catoche (kah-tô'chay).
 Cauca (cow'cah).
 Cau'ca-sus.
 Caxamarca (cah-hah-mar'-
 kah).
 Cayenne (ki-en').
 Celebes (sel'e-bêz).
 Cetta (set).
 Cetinje (chet-tên'yâ).
 Ceuta (su'tah).
 Cevennes (sâ-ven').
 Ceylon (se'lon, or se-lou').

Chagres (chah'gres).
 Champlain (sham-plân').
 Chapala (chah-pah'lah).
 Charybdis (ka-rib'dis).
 Chataqua (shat-au'qua).
 Chat-ta-hoo'che.
 Chaudiere (sho-de-air').
 Chelmsford (chemz'ford).
 Chelsea (chel'se).
 Chemung (she-mung').
 Chenango (she-nang'go).
 Cherbourg (sher'boorg).
 Chersonese (ker-so-nês').
 Ches'a-peak.
 Cheyenne (shi-en').
 Chicago (she-caw'go).
 Chili (chil'le).
 Chimborazo (chim-bo-rah'-
 zo).
 Chin'cha.
 Chihuahua (che-wah'wah).
 Chil-li-côth'e.
 Chios (kê'os).
 Chip'pe-wâ.
 Chudleigh (chud'le).
 Chuquibamba (chu-ke-
 bah'm'bah).
 Chuquisaca (chu-ke-sah'-
 kah).
 Cienfuegos (se-en-fwâ'gôs).
 Cincinnati (sin-sin-nah'ti).
 Clyde (clîd).
 Coahuila (ko-ah-wê'lah).
 Cobija (ko-bê'hah).
 Cohoes (co-hôz').
 Coimbra (co-im'bra).
 Cologne (kô-lôn').
 Colorado (col-o-rah'do).
 Comayagua (kô-mi-ah'gwa).
 Comorin (kom'o-rin).
 Con'chos.
 Connecticut (con-net'i-cut).
 Constantine (kon'stan-tên).
 Copiapo (ko-pe-ah'po).
 Co-pen-hâ'gen.
 Coquimbo (ko-kêm'bo).
 Cor-dil'le-ra (Sp. eor-dêl-yâ'
 rah).
 Cor'do-va.
 Corea (co-rê'a).
 Cor-ri-en'tes.
 Coseguina (ko-sâ-gê'hê-nah).
 Costa Rica (kos'tah rê'kah).
 Cotopaxi (co-to-pax'e).
 Cracow (krah'ko).
 Cronstadt (krôn'staht).
 Covington (kuv'ing-ton).
 Crimea (crim-e'a).
 Cumana (ku-mah-nah').
 Curacao (ku-ra-so').
 Cuyaba (coo-ya-bah').
 Cuzco (koos'ko).
 Cyclades (sik'la-dêz).
 Cy'prus (si-prus).

D.

Dah-lon-ê'ga.
 Dahomey (da-ho'mâ).
 Dakota (da-ko'ta).
 Dalton (dau'l-ton).
 Darmstadt (darm'stat).
 Dar-da-nelles' (-nels).
 Darfur (dar-foor').
 Da-ri-en'.
 Dec'an.

Decatur (de-câ'tur).
 Delgado (del-gah'do).
 Delhi (del'hi in U. S.; del'e
 in Asia).
 Des Moines (dâ-moin').
 De-troit'.
 Dhawawalaghira (da-wol-a-
 ghe're).
 Diamantina (de-ah-mahn-tê'-
 nah).
 Dnieper (nê'per).
 Dniester (nê'ster).
 Do'vre-field.
 Dor'ches-ter.
 Dordogne (dor-dôn').
 Dorpat (dor'pat).
 Doubs (doo'b).
 Douro (doo'ro).
 Drontheim (dront'im).
 Drave (dhrav).
 Dubuque (du-book').
 Dumfries (dum-frêz').
 Dun-bar'.
 Dû-nêd'in.
 Dus'sel-dorf.
 Dwina (dwê'nah).

E.

Eau Claire (ô-clâre').
 Ecuador (ek-wa-dôr').
 Edgcombe (ej'kum).
 Ed'in-burgh (or burro).
 Ed'is-to.
 Elbe (elb).
 Elburz (el-boorz').
 El Dorado (do-rah'do).
 El Paso (pah'so).
 Elsinore (el-se-nôr').
 England (ing'land).
 Enikale (en-e-kah'lâ).
 Erie (ê're).
 Esquimaux (es'ke-mo).
 Essequibo (es-se-kê'bo).
 Espinhago (es-pin-yah'so).
 Estacado (es-tah-kah'do).
 Etienne (â-te-ên').
 Eufaula (yoo-fau'la).
 Eu-phra'tes (yoo-frâ'tês).
 Eu-rê'ka.
 Eux'ine (yoox'in).
 Ev'o-ra.
 Ex'e-ter.
 Eyre (air).

F.

Faribault (fâr'e-bo).
 Falkland (fawk'land).
 Farallones (far-al-lôn's).
 Fa'roe (fâ'ro).
 Fauquier (faw-kêr').
 Felipe (fê-lê'pâ).
 Ferdinandina (-dê'nah).
 Ferrara (fer-rah'rah).
 Ferrol (fer-rôl').
 Fez-zan'.
 Fingal (fing-gawl').
 Finisterre (fin-is-tair').
 Fjord (fe-ord).
 Fond du lac (foN dû lac).
 For-mo'sa.
 Foo-chow'.
 Freiburg (fri'boorg).
 Fucino (It. foo-chê'no).

Fuegos (foo-ä'gös).
Funchal (foon-shah'l).
Fusi-yama (foo-se-yah'mah).

G.

Gal-a-pa-gos (gal-a-pah'gös).
Ga-lat' (-lats').
Galicia (gal-ish'e-a).
Gallinas gal-ä'nas).
Galway (gaw'l'way).
Ganges (gan'jéz).
Garonne (gah-ron').
Ge-né'va.
Gen-es-see'.
Gen'o-a.
Geysers (ghi'zers).
Ghants (gawts).
Ghent (jént).
Ghizet (ghé'ze).
Gib-ra'l'tar (jih-raw'l'tar).
Gila (jé'la or h'é'la).
Gloucester (glós'ter).
Gobi (gö'bé).
Godavery (go-dav'e-re).
Gotha (go'tah).
Göttengen (ghet'ting-en).
Gracias a Dios (grah-se-as ah dé'ös).
Granada (gra-nah'dah).
Graz (gräts).
Greenwich (grin-idj).
Greitz (gritz).
Guadalajara (gwah-dah-lah-hah'rah).
Guaymas (gwi'mahs).
Guadalquivir (gaw-dal-kwiv'er or gwah-dahl-ke-vér').
Guadaloupe (gwah'da-loop).
Guadiana (gwah-de-ah'na).
Guahuaní (gwah-nah-hah'-ne).
Guajuato (gwah-na-hwah'to).
Guardafui (gwar-dah-fwé').
Guatemala (gwah-te-mah'-la).
Guayaquil (gwi-ah-kél').
Guelph (gwelf).
Guernsey (ghern'se).
Guerrero (gher-ray'ro).
Guiana (ghé-ahn'a).
Guinea (ghé-en').
Guinea (ghin'e).
Guyandotte (ghi-an-dot').

H.

Hadramant (hahd-rah-mowt').
Hague (häg).
Hainan (hi-nan').
Hakodadi (hah-ko-dah'di).
Hala (hah'lah).
Ham'mer-fest.
Han'o-ver.
Hatter-as.
Havana (ha-van'nah).
Havre (hah'vr).
Havre de Grace (hah'vr-de-grahs).
Hawaii (hah-wah'e).
Hayti (hä'te).
Heb'ri-des (-déz).
Hed-jaz'.
Heidelberg (hi'del-berg).

Helena (hel'e-na, Ark.; he-lé'na for the Island St. Helena).
Hen-lo'pen.
He-ra't'.
Her-cu-le's-ne-um.
Herrnhut (hern'hoot).
Himalaya (him-a-lä'-ya or him-ah'la-ya).
Hin-do-stan', or Hin-du-stan'.
Hoang-Ho (whang'ho').
Holstein (hól'stín).
Hol'y-head.
Holyoke (hól'yök).
Hon-du'ras.
Honolulu (ho-no-loo'loo).
Houghton (hó'ton).
Hous-a-ton'ic (hoos-).
Houston (hüs'ton).
Huallaga (hwal-yah'gah).
Huanuco (whan'oo-ko).
Hue (hway).
Huesca (wes'ka).
Hum'boldt.
Hun'ga-ry.
Hyderabad (hi-der-a-bad').

I.

I'da-ho.
Illinois (il-lin-oiz' or -oi).
Illimani (él'ye-mah'ne).
Inagua (é-nah'gwah).
In-di-an'a.
In-di-an-ap'o-lis.
Indies (in'diz).
Innsbruck (ins'brook).
Ic-wa.
Iquique (é-ké'kay).
Iran (é'ran).
Irkutsk (ér-kootsk').
Ir-ra-wad'dy (-wod'dy).
Isere (é-zair').
Isere (ézer).
Islip (é'slip).
Ismailia (is-mah'e-le-ah).
Is-pe-ban'.
Itacolumi (é-tah-ko-loo-mee').
Ivica (é-vé'sah).
Iztacchuatl (és-tahk-se-hwahtl').

J.

Jaen (hah-en').
Jacinto (ja-sin'to).
Jaffa (or yaffa).
Jalapa (hah-lah'pah).
Ja-lis'co (hah-).
Jamaica (ja-mä'kah).
Jan Mayen (yahn-mi'en).
Ja-pán'.
Japura (hah-poo'rah).
Jassy (yas'se).
Java (jah'vah).
Jeb'el Sham'mer.
Je'na (or ya'nah).
Jiloca (he-lo'kah).
Jo'li-et.
Jorullo (ho-rool'yo).
Ju-an Fer-nan'dez.
Ju-an de Fu'ca (hwahn-dä-foo'kah).
Juggernaut (jug-gher-nawt').
Juniata (ju-ni-ah'tah).

Jungfrau (yoong'frow).
Ju'ra (joo'ra).

K.

Kalahari (kah-lah-hah're).
Kal'a-ma-zoo'.
Kamtchatka (kam-chat'ka).
Kanawha (kan-aw'-wa).
Kan-ka-kee'.
Kano (kah-no').
Kar-a-kó'rum.
Kar'l'stadt.
Kash-gar'.
Kas-kas'ki-a.
Ka-tah'din.
Kearney (kar-ney).
Kearsarge (ké'sarj).
Ke-wé'din.
Kel-ät' (or aht).
Ken'i-a.
Ke'o-kuk.
Kerguelen (kerg'e-len).
Ke-wé'naw'.
Khar-toom'.
Khar-koy'.
Khiva (ké'vah).
Kishta (ké-ahk'tah).
Kiel (kél).
Kiev (ké-er').
Killarney.
Kingkitaö (king-ki-tah'o).
Kirghiz (kir-ghéz').
Kis'ting-en.
Kit-tan'ning.
Kiusiu (ke-oo'se-oo).
Klamath (klah'mat').
Königgrätz (ken'ig-gräts).
Kön'igs-berg (ken'igz-berg).
Kouka (koo'kah).
Kor-do-fan'.
Kó-ras-san'.
Kuen Lun (kwen loon).
Kurdistan (koo-dis-tan').
Kurile (koo-rél' or koo'rill).
Ku'ro Si'wo (sé'wo).

L.

La Chine (lah shén').
Lac'ca-dive (-div or -dév).
La-do'ga.
La-drones'.
La Fay-ette'.
La Guayra (lah gwi'rah).
Lanc'as-ter.
Landes (lon'dé).
La Plata (lah plah'tah).
Laramie (lar'a-me).
La Rochelle (lah ro-shel').
Lausanne (lo-zan').
Leeuwin (lé-u-in or lew'in).
Leicester (les'ter).
Leip'sic (lip'sic).
Leith (léth).
Leon (lé'on).
Le-vant'.
Lewes (lu'éz).
Leyden (lä'den or li'den).
Lichtenfels (lik'ten-fels).
Lige (lé or lé-ähz).
Lima (lé'mah).
Lipari (lip'ah-ré).
Lisle (léh).
Llano Estacado (lyah'no es-tah-kah'do).

Fuegos (foo-ā'gōs).
Funchai (foon-shah'l').
Fusiama (foo-se-yah'mah).

G.

Gal-a-pa'gos (gal-a-pah'gōs).
Ga-lat'z (-lats').
Galicia (gal-ish'e-a).
Gallinas gal-lē'nas).
Galway (gaw'way).
Ganges (gan'jēz).
Garonne (gah-ron').
Ge-nē'va.
Gen-es-see'.
Gen'o-a.
Geysers (ghi'zers).
Ghants (gawts).
Ghent (jēnt).
Ghizeh (ghē'ze).
Gib-ral'tar (jib-rawl'tar).
Gila (jē'la or hē'la).
Gloucester (glōs'ter).
Gobi (gō'be).
Godavery (go-dav'e-re).
Gotha (gō'tah).
Göttingen (ghet'ting-en).
Gracias a Dios (grah'se-as ah dē'ōs).
Granada (gra-nah'dah).
Graz (grah'tz).
Greenwich (grin-idj).
Greitz (gritz).
Guadalaxara (gwah-dah-lah-hah'rah).
Guaymas (gwi'mahs).
Guadalquivir (gaw-dal-kwiv'er or gwah-dahl-ke-vēr').
Guadaloupe (gwah'da-loop).
Guadiana (gwah-de-ah'na).
Guanahani (gwah-nah-hah'-ne).
Guanajuato (gwah-na-hwah'to).
Guardafui (gwar-dah-fwē').
Guatemala (gwah-te-mah'-la).
Guayaquil (gwi-ah-kēl').
Guelph (gwēlf).
Guernsey (ghern'ze).
Guerrero (gher-ray'ro).
Guiana (ghē-ahn'a).
Guienne (ghē-en').
Guinea (ghin'e).
Guyandotte (ghi-an-dot').

H.

Hadramaut (hahd-rah-mowt').
Hague (hāg).
Halnan (hi-nan').
Hakodadi (hah-ko-dah'di).
Hala (hah'lah).
Ham'mer-fest.
Han'o-ver.
Hat'ter-as.
Havana (ha-van'nah).
Havre (bah'vr).
Havre de Grace (hah'vr-de-grahs).
Hawaii (hah-wah'e).
Hayti (hā'te).
Hel'ri-des (-dēz).
Hed-jaz'.
Heidel'berg (hē'del-berg).

Helena (hel'e-na, Ark.; hē-lē'na for the Island St. Helena).
Hen-lo'pen.
He-rat'.
Her-cu-la'ne-um.
Herrnhut (hern'hoot).
Himalaya (him-a-lā'ya or him-ah'la-ya).
Hin-do-stan', or Hin-du-stan'.
Hoang-Ho (whang'ho').
Holstein (hōl'stūn).
Hol'y-head.
Holyoke (hōl'yōk).
Hon-du'ras.
Honolulu (ho-no-loo'loo).
Houghton (hō'ton).
Hous-a-ton'ic (hoos-).
Houston (hūs'ton).
Huallaga (hwal-yah'gah).
Huanuco (whan'oo-ko).
Hue (hway).
Huesca (wes'ka).
Hum'boldt.
Hun'gary.
Hyderabad (hi-der-a-bad').

I.

I'da-ho.
Illinois (il-lin-oiz' or -oi).
Illimani (il'yē-mah'ne).
Inagua (ē-nah'gwah).
In-di-an'a.
In-di-an-ap'o-lis.
Indies (in'diz).
Innsbruck (ins'prook).
I-o-wa.
Iquique (ē-kē'kay).
Iran (ē'ran).
Irkutsk (ēr-kootsk').
I'rā-wad'dy (-wod'dy).
Isere (ē-zair').
Isar (ēzer).
Is'lip (is'lip).
Ismailia (is-mah'e-le-ah).
Is-pa-han'.
Itacolumi (ē-tah-ko-loo-mee').
Ivica (ē-vē'sah).
Iztacehuatl (ēs-tahk-se-hwahtl').

J.

Jaen (hah-en').
Jacinto (ja-sin'to).
Jaf'fa (or yaf'fa).
Jalapa (hah-lah'pah).
Ja-lis'co (hah).
Jamaica (ja-mā'kah).
Jan Mayen (yahn-mī'en).
Ja-pan'.
Japura (hah-poo'rah).
Jassy (yas'se).
Java (jah'vah).
Jeb'el Sham'mer.
Jē'na (or ya'nah).
Jiloca (hē-lo'kah).
Jo'li-et.
Jorullo (ho-rool'yo).
Ju-an Fer-nan'dez.
Ju-an de Fu'ca (hwahn-dā-foo'kah).
Juggernaut (jug-gher-nawt').
Junjata (ju-mi-ah'tah).

Jungfrau (yoong'frow).
Ju'ra (joo'ra).

K.

Kalahari (kah-lah-hah're).
Kal'a-ma-zoo'.
Kamtchatka (kam-chat'ka).
Kanawha (kan-aw'-wa).
Kan-ka-kee'.
Kano (kah-no').
Kar-a-kō'rum.
Karlstadt.
Kash-gar'.
Kas-kas'ki-a.
Ka-tah'din.
Kearney (kar-ney).
Kearsarge (kēr'sarj).
Ke-wā'din.
Kel-ut' (or -ah't).
Ken'fa.
Ke'o-kuk.
Kerguelen (kerg'e-len).
Ke-wē'naw.
Khar-loom'.
Khar-kov'.
Khiva (kē'vah).
Kiachta (kē-ahk'tah).
Kiel (kēl).
Kiev (kē-ev').
Killar'ney.
Kingkitao (king-ki-tah'o).
Kirghiz (kir-ghēz').
Kis'sing-en.
Kit-tan'ning.
Klustu (ke-oo'se-oo).
Klamath (klah'mat).
Königgrätz (ken'ig-gräts).
Kön'igs-berg (ken'igz-berg).
Kouka (koo'kah).
Kor-do-fan'.
Kō-ras-san'.
Kuen Lun (kwen loon).
Kurdistan (koo-r-dis-tan').
Kurile (koo-rēl' or koo'rīl).
Ku'ro Si'wo (sē'wo).

L.

La Chine (lah shēn').
Lac'ca-dive (-div or -dēv).
La-dō'ga.
La-drones'.
La Fay-ette'.
La Guayra (lah gwi'rah).
Lanc'as-ter.
Landes (lōNd).
La Plata (lah plah'tah).
Laramie (lar'a-me).
La Rochelle (lah ro-shel').
Lausanne (lo-zan').
Leeuwin (lā'u-in or lew'in).
Leicester (les'ter).
Leip'sic (līp'sic).
Leith (lēth).
Leon (lā'on).
Lewan'.
Lewes (lu'ez).
Leyden (lā'den or lē'den).
Lichtenfels (lik'ten-fels).
Liege (lēj or lē-āzh).
Lima (lē'mah).
Lipari (līp'ah-rē).
Lisle (lēl).
Llano Estacado (lyah'no es-tah-kah'do).

Llanos (lyah'nós).
Lodi (lo'dé).
Lo-fó'den.
Loire (lwar).
Los Angeles (lós an'jel-és).
Lough (lok).
Louisville (loo'is-vil or loo'-i-vil).
Louisiana (loo-é-ze-ah'na).
Lucca (loo'c'ah).
Lucerne (loo-sern').
Luck'now.
Luzon (loo-zón' or zon').
Ly'ons (li-onz).

M.

Macao (ma-cah'o or ma-kow').
Machias (ma-tchi'as).
Madeira (ma-dér'ah or ma-dá'-rah).
Ma-dras'.
Mad-rid'.
Maestricht (mahs'trikt).
Mag-da-lé'na.
Magalhães (mah-gahl-yah'ens).
Magellan (ma-jel'lan or maj-el-lan').
Maggiore (mahd-jo'ra).
Mal-a-bar'.
Mal'a-ga.
Ma-lay'.
Mal'dive (div or dēv).
Malta (mawl'ta).
Managua (man-ah'gwah).
Mah'dalay.
Ma-ni'l'a or Ma-ni'l'a.
Manitoba (man-i-to'ba).
Manzanillo (man-zan-él'yo).
Marajo (mah-rah-zho').
Mar-an-ham'.
Marañon (mar-an-yón').
Margarita (mar-gah-ré'tah).
Mar'mo-ra.
Marquesas (mar-ká'zas).
Mar-a-cay'bo (-kí'bo).
Marquette (mar-ket').
Marseilles (mar-sälz).
Mar-ta-ban'.
Martinique (mar-te-nēk').
Mat-a-mo'ras.
Mattapony (mat'ta-po-ní').
Mauch Chunk (mawk chunk).
Maurepas (mo-re-pah').
Mechlin (mek'lín).
Medina (me-dē'nah in Ar., me-dí'nah in U. S.).
Mekong (mä-kong').
Menai (men'tí).
Menam (mä-nahm').
Me-nau'.
Mendocino (men-do-sē'no).
Mercede (mer-sid').
Merida (mer'e-dah).
Mersey (mer'ze).
Mer'thyr Tydvil (mer'ther tid'vil).
Metz (mets or mace).
Meuse (müz).
Messina (mes-sē'nah).
Miami (mi-am'e).
Michigan (mish'e-gan).
Mil'an (or me-lan').
Mikado (mi-kah'do).

Minch (minsh).
Mindanao (min-dah-nah'o)..
Min-ne-ap'o-lis.
Miss-is'quoi.
Missolonghi (-long'ghé).
Mis-sou'ri.
Mitylene (mit-e-lē'né).
Mobile (mo-bél').
Mocha (mo'kah).
Mod'e-na.
Mo-nóc'a-cy.
Mont Cenis (moN-se-nē').
Mout Blanc (mōN blōN').
Mo-non-ga-hé'la.
Monterey (mont-e-rá').
Monte-vid'e-o.
Montpellier (mont-pél'yer).
Montreal (mon-tre-awl').
Moray (mur're).
Mo-ré'a.
Moscow (mos'kō).
Moselle (mo-zel').
Mo'sul.
Mozambique (mo-zam-bēk').
Mulhacen (mool-ah'then).
Munich (mu'ník).
Mursheadabad (moor'she-dah-bahd').
Muskingum (-king'gum).
Mysore (mi-sör').

N.

Nagasaki (nah-gah-sah'ke).
Na-bant'.
Namaqua (nah-mah'quah).
Nantes (nants).
Na'tal' (nah-tahl').
Natch-i-tóch'es.
Navarino (na-va-rē'no).
Navarre (na-vahr').
Ned'jed.
Ne-o'sho.
Nepaul'.
Neufchatel (nush-ah-tel').
Neuse (nūs).
Nevada (ne-vah'dah).
Nev'er-sink.
New-found'land (or nu'-fund-land).
New Granada (grah-nah'-dah).
New Or'le-ans.
New Zea'land.
Ngami (n'gah'me).
Ni-ag'a-ra.
Nicaragua (nik-ar-ah'gwah).
Nice (nēs).
Nic-o-bar'.
Niemen (nē'men).
Ni'ger (ni'jer).
Nikolaief (nē-ko-lí'ef).
Nin'e-veh.
Nippon (nif-ōn').
Nip'is-sing.
Ni'j'ni Nov'go-rod (nizh'ní).
Nismes (nēm).
Nor'wich (or nor'ich in U. S.: nor'ij in Eng.
Nueces (noo-ā'ses).
Nyauza (ni-an'zah).

O.

Oahu (wah'hoo).
Oaxaca (wah-hah'kah).

O'be.
Oceanica (o-she-ān'e-ca).
Oc-mul'gee (-ghé).
O-co'nee.
O'der.
O-des'sa.
O-gee'chee (o-ghē'ohé),
O-h'i'o.
Oise (wahs).
O-ke-cho'bee.
O-ke-fi-no'kee.
Okhotsk (o-kotak').
Old'en-burg.
Omaha (ō-ma-haw).
Oné'ga.
Oneida (ō-ní'dah).
Onondaga (on-on-dah'gah).
Ontario (on-tá're-o).
O-po'rto.
Opelousas (op-e-loo'sas).
Orizaba (ō-ré-zah'bah).
Or'e-gon.
O-ri-no'co.
Orleans (or'le-anz or or'lā-on').
Or'te-gal.
O-sage'.
Osaka (ō-sah'kah).
Osceola (os-e-o'la).
Os-tend'.
Os-wē-go.
Ottawa (ot'ta-wa).
Ouachita (wosh'e-taw).
Oude (owd).
Ox'ford.
O-zark'.

P.

Pad'u-a.
Pa-du'cah.
Pa-lem-bang'.
Pa-ler'mo.
Pal'es-tine.
Palo Alto (pah'lo ahl'to).
Palos (pah'los).
Pamir (pah-mér').
Pam'li-co.
Pan-a-ma' (-mah).
Papua (pap'u-ah).
Para (pah-rah').
Paraguay (pah-rah-gwā' or pah-rah-gwí').
Par-á-mar'í-bo.
Parana (pah-rah-nah').
Parina (pah-rē'mah).
Pas-ca-gou'la (-goo-).
Pas-sā'ic.
Pas-sa-ma-quod'dy.
Pass Chris'tian.
Patur'ent.
Pavia (pah-vē'ah).
Pechili (pē-chē-lē').
Pecos (pá'kōs).
Pe-dee'.
Pe-king'.
Peling (pā-ling').
Pembina (pem-bē'na).
Penine (pen'én).
Pen-sa-co'la.
Per-nam-bu'co.
Perouse (pe-rooz').
Peru (pe-roo').
Peeth (pēst').
Petchora (petch'o-rah).
Pisa (pē'zah).

Pis-cat'a-qua.
Plaquemine (plak-mén').
Plata (plah'tah).
Plateau (pla-to').
Poitiers (poi-térz').
Pompeii (pom-pá'yé).
Popayan (po-pah-yahn').
Po-po-cat-a-petl'.
Port au Prince (porto prins).
Porto Rico (port'o ré'ko).
Portsmouth (pórts'múth).
Port'u-gal.
Po-to'mac.
Potosi (po-to-sé' or po-to'-sé).
Poughkeepsie (po-kíp'se).
Prague (prág').
Prairie du Chien (pra'ré du shén).
Pruth (prooth).
Puebla (pwá'blah or pū-a'-blah).
Pu'get.
Purus (poo'roos).
Puerto Principe (pwer'to prin'se-pá).
Pulaski (pu-las'ke).
Pyr'-e-nees.

Q.

Quebec (kwe-bek').
Queretaro (ká-rá'tah-ro).
Quincy (kwín'se).
Quito (ké'to).

R.

Racine (ra-sén').
Raleigh (raw'le).
Rap-pa-han'nock.
Rap-id-an'.
Rar'i-tan.
Reading (red'ing).
Reggio (red'jo).
Reims or Rheims (rémz).
Rens'se-laer (-ler).
Reus (ruce or roice).
Revillagigedo (rá-veel'yah-he-hay'do).
Reyes (ray'yés).
Reykjavik (rik'yah-vik).
Rhine (rín).
Rhode Island (ród 'Iland).
Rhône (rôn).
Richelieu (ré'she-loo or rēsh'-le-Uh).
Rideau (ré-do').
Rio Pecos (ré'o pá'kós).
Riga (ré'gah).
Rio de la Plata (ré'o dá lah plah'tah).
Rio Grande (rí'o grand in Texas; ré'o grahn'dá in S. America).
Rio Janeiro (ré'o ja-né-ro or ré'o jah-ná'ro).
Rio Negro (ré'o ná'gro).
Rivière du Loup (ré-vé-air' du loo).
Ro-an-oke'.
Roche'fort (or rôsh-fór').
Rochelle (ro-shel').
Rôch'es-ter.
Roque (rôk).
Roraima (ro-rá'mah).
Rouen (roo-en' or roo-on').

Ryswick (riz'wik).

S.

Sabine (sa-bén').
Saco (saw'ko).
Sadowa (sah-do'ah).
Saghalien (sa-ghah'le-en or sah-ghah-leen').
Sag'inaw.
Saguenay (sag-e-ná').
Sahara (sah-hah'rah).
Said (sah-éd').
Saigon (si-gon').
Salado (sah-lah'do).
Saline (sa-lén').
Salisbury (sawlz'ber-e).
Salonica (sah-ion-é'kah).
Salu'da.
Samana (sah-mah-nah').
Samo'a.
San Diego (de-á'go).
San-dus'ky.
San'ga-mou.
San Joaquin (sahn wah-kén').
San Jose (sahn ho-sá').
San Juan (sahn hoo-ahn').
San Marino (mah-rén'o).
Saone (són).
St. Augustine (aug-us-tén').
St. Hé'lena.
St. Louis (loo'is or loo'e).
St. Pierre (saint pér or saN pe-air').
San Blas (blahs).
San Sal-va-dor'.
San'ta Cruz (krooz).
San'ta Fe' (fá).
San-tee'.
Santiago (sahn-ti-ah'go).
Sarawak (sah-rah-wah'k').
Sas-katch'e-wan.
Sault St. Marie (soo sént ma'rē).
Save (sahv or sáv).
Savoy (sa-voy').
Schaffhausen (shaff-how'-zen).
Scheldt (skelt).
Schenectady (sken-ec'ta-de).
Schleswig Holstein (shles'-vég hol'stín).
Schuykill (skool'kil).
Scilly (sil'le).
Scio (sí'o or shé'o).
Scioto (sí-o'to).
Scutari (skoó'ta-re or skoó-tah're).
Scylla (sí'la).
Seattle (se-at'tl).
Se-bas'to-pol (or -tō'pol).
Sedan (seh-dahn' or -doN').
Seidlitz (sid'lits).
Seine (sán).
Sen'e-ca.
Senegal (sen'e-gawl or sen-e-gawl').
Seville (or se-ville').
Seychelles (sē-shelz').
Shanghai (shang'hi).
Shen-an-do'ah.
Sie'i-ly (sis'il-e).
Sierra Leone (se-er'rah le-o'ne).
Sierra Madre (se-er'rah mah-drá).

Sierra Morena (se-er'rah mo-rá'nah).
Simoda (sí-mo'da).
Sinai (sí'na-i or sí'ná).
Sing-a-pore'.
Sin-o'pe.
Sioux (soo).
Sisal (se-sal').
Skag'er Rack.
Skaneateles (skan-e-at'less).
Smyr'na.
Soissons (swah'soN').
Solferino (sol-fa-rén'o).
Sorata (so-rah'tah).
Stanovoi (stahn-no-voi').
Stanton (stán'ton in Va. : stán'ton or stahn'ton in Eng.).
Stettin (stet-tén').
Stockholm.
Stutt'gard (stóót'gart).
Sucre (soo-crá').
Suleiman (soo-lá-mahn').
Sulu (soo-loo').
Sungari (sun-gah're).
Surrat (soo-rat').
Surinam (soo-ri-nam').
Suwanee (su-waw'ne).
Suez (soo'ez).
Sumatra (soo-mah'tra).
Sus-que-han'na.
Swansea (swon'ze).
Syra (sé'rah).
Syracuse (sí-ra-kūs).

T.

Tabriz (ta-bréz').
Tahiti (tah-hé'te).
Tah-le-quah'.
Tal-la-poo'sa.
Tamaqua (tam-aw'qua).
Tamaulipas (tah-mow-lé-pahs).
Tampico (tam-pé'ko).
Tananarivo (tah-uah-nah-re-vo').
Tanganyika (tahn-gahn-yé'kah).
Tapajós (tah-pah'zhós).
Tar'ta-ry.
Taunton (tahn'ton).
Tchad (chad).
Tegucigalpa (tég-u-sé-gahl'-pah).
Teheran (te-he-rah'n').
Tehuantepec (tá-wahn-tá-pek').
Te-na'se-rim.
Ten-er-iffe'.
Tengri Nor (ten'gre-nor).
Terre Haute (ter-e-hót).
Tézot'coo.
Thames (temz).
Thébas (tis).
Thian Shan (te-ahn'shahn).
Thibet (tib'et or tib-et').
Thien-tsin (tē-en-tsén').
Ti'ber.
Tierra del Fuego (tē-er'ra del fwe'go).
Tif'lis or tif-lés'.
Tim-buc-too' or tim-buc'too.
Timor (ti-mór').
Tip-pe-ca-noe' (-noo').
Titicaca (tí-ti-kah'kah).

Tivoli (tîv'ô-le).
 To-bolsk'.
 Tocantins (to-kahn-tênz').
 To-kay'.
 To-le'do.
 Tolima (to-lê'mah).
 Tom-big'bee.
 Toplitz (tep'lits).
 Tor-tu'gas.
 Toulon (too-loN').
 Toulouse (too-looz').
 Tours (toor).
 Traf-al-gar' (or tra-fal'gar).
 Transvaal (trans-vahl').
 Trieste (trê-est').
 Trin-i-dad'.
 Trip'o-ll.
 Truxillo (tru-hêl'yo).
 Tucson (took-son').
 Tucuman (too-koo-mahn').
 Tulare (too-lah'râ or ta-lair).
 Tundras (toon'drahz).
 Tu'rin (or tu-rin').
 Turkestan (toor-kes-tahn').
 Tus'ca-ny.
 Tuxtla (toox'tlah).
 Tyne (tûn).
 Tyrol (tîr'rol or te-rôl'),

U.

Ucayale (ook-i-ah'lâ).
 Uintah (yu-intah').
 Uist (wist).
 Ulm (Ger. pron. oolm).
 Um'ba-gog.
 Ump'qua (-qwaw).
 Uncompahgre (un-kom-pah'-gre).
 Upernavik (oo'per-nah'vik).
 Upsala (up-sah'lah).

U'ral or Ou'ral.
 Uruguay (oo-roo-gway' or -gwi).
 U'tah (yoo'tah or yoo'taw').
 Utrecht (.reckt).

V

Valdai (val'dî).
 Valladolid (val'la-do-lid' or -lêd').
 Vallejo (vahl-yâ-ho or val-lâ'-ho).
 Valparaiso (val-pa-rî'so).
 Venezuela (ven-e-zwê-la).
 Ven'ice (-iss).
 Vera Cruz (vâ'rah krooz).
 Vermejo (ver-mâ'ho).
 Ver-mont'.
 Versailles (ver-sâlz').
 Vich (vik).
 Vienna (vê-en'nah).
 Vindhya (vind'yah).
 Vosges (vôzh).

W

Wabash (waw'bash).
 Wachusett (waw-chu'set).
 Wahsatch (wah'sach).
 Wallachia (wal-lâ'ki-ah).
 Warwick (wor'ik).
 Washita (wash'e-taw).
 Weimar (vi'mar).
 We'ser.
 Wieliczka (vê-litch'kah).
 Wiesbaden (vê'sbaden).
 Wight (wit).
 Wilkesbarre (wilks'bar-re).
 Windsor (win'zer).

Winnipiseogee (win-ne-pe-saw'kee).
 Woolwich (wool'itch).
 Worcester (woos'ter).
 Wur'temburg.
 Wyandot (wi-an-dôt').
 Wy-o'ming.

X.

Xarayes (shah-rî'es).
 Xeres (hâ-res').
 Xingu (shin-goo').

Y.

Yakoutsk (yah-kootsk').
 Yang-tse Kiang (yahng'tse ke-ang').
 Yapura (yah-poo'rah).
 Yar-kand'.
 Yazoo (yah-zoo').
 Yenisei (yen-e-sâ-e).
 Yokohama (yo-ko-hah'mah).
 Yo-sem'i-te.
 Youghiogheny (yok-e-gâ'ne).
 Ypsilanti (ip-se-lan'te).
 Yu-ca-tan'.
 Yu'kôn.

Z.

Zacatecas (zak-a-tâ'kas).
 Zambezi (zam-bâ'ze).
 Zan-gue-bar'.
 Zan'te.
 Zealand (zê'land).
 Zurich (zu'rik).
 Zuyder Zee (zî'der zê).

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